

# 2019

## SEED PRODUCT INFORMATION GUIDE

PanAmericanSeed®  
**KieftSeed**

# NEW VARIETIES FOR 2019

## PLUG & PLAY®

Find growing information and more at [panamseed.com/plugandplay](http://panamseed.com/plugandplay)

### Cool Wave® Fuseables®

Flower Date  
Sunny Skies

### Cool Wave® Plug & Play

Ocean Breezes  
On a Clear Day  
Purple Sunset  
Yellow Heaven

### Single-Species Plug & Play

Airbrush'd  
Berry Burst  
Christmas in July  
Shining Stars  
Star Bright  
Summer Smoothie

### Plug & Play with Premium Annuals

Berry Sparkler  
Cherry Jam  
Ink'd  
Peach Melba Parfait  
Seaside Delight  
Summer Candy  
Sun Jewels  
Yellow Tambourine

## ANNUALS

### F1 Begonia interspecific

Megawatt Pink Green Leaf  
Megawatt Red Green Leaf Improved  
Megawatt Rose Green Leaf Improved

### F1 Calibrachoa

Kabloom Denim

### Celosia

First Flame Purple

### Ornamental Corn

Pink Zebra

### Cosmos

Sonata Purple Shades

### F1 Cyclamen

Dreamscape Bright Red  
Dreamscape Deep Burgundy  
Dreamscape Deep Rose  
Dreamscape Purple  
Dreamscape Salmon Eye  
Dreamscape White  
Dreamscape Dark Flamed Mixture

### F1 Dianthus

Corona Cherry Red  
Corona Rose  
Corona Salmon Red Eye  
Corona Strawberry  
Corona White  
Floral Lace Picotee Improved  
Floral Lace Purple Improved  
Floral Lace Mixture Improved

### French Marigold

Bonanza Deep Orange Improved  
Bonanza Flame Improved

### F1 Spreading Pansy

Cool Wave® Fire  
Cool Wave Lemon Improved

### F1 Extra Large-Flowered Pansy

Matrix® Deep Blue Blotch Improved  
Matrix Light Blue Improved

### F1 Large-Flowered Pansy

Promise® Antique Shades Improved  
Promise Pure Silver Azure Improved  
Promise Rose Blotch  
Promise Yellow Blotch Improved  
Spring Matrix Blue Improved

### F1 Ruffled Pansy

Frizzle Sizzle Yellow Improved

### F1 Medium-Flowered Pansy

Halloween Improved

### F1 Pentas

Lucky Star® Raspberry  
Lucky Star Mixture

### F1 Spreading Petunia

Easy Wave® Red Improved  
Easy Wave Violet Improved  
Easy Wave Flag Mixture Improved  
Easy Wave Formula Mixture Improved  
Easy Wave Great Lakes Mixture Improved  
Easy Wave Opposites Attract Mixture Improved  
Easy Wave Plum Pudding Mixture Improved  
Easy Wave South Beach Mixture Improved

### F1 Primula

Optic Blue  
Optic Copper  
Optic Cream  
Optic Rose  
Optic Scarlet  
Optic White  
Optic Yellow  
Optic Mixture

### Salvia Interspecific

Big Blue

### F1 Snapdragon

Snapshot Burgundy Bicolor  
Snapshot Coral Bicolor

### Upright Vinca

Tattoo Black Cherry  
Tattoo Papaya  
Tattoo Raspberry  
Tattoo Tangerine

### F1 Upright Vinca

Titan® Dark Red Improved

### Trailing Vinca

Mediterranean XP Burgundy Halo

### F1 Viola

Sorbet® XP Pink Wing  
Sorbet XP Yellow Improved  
Sorbet XP Yellow Burgundy Jump Up  
Sorbet® Yellow Blue Jump Up

### Double Zinnia

Double Zahara Bright Orange  
Double Zahara Salmon  
Double Zahara White

## PERENNIALS

### Coreopsis

Double the Sun

### Lavandula

Avignon Early Blue  
Blue Spear

## POT PLANTS

### F1 Gerbera

Revolution Red with Dark Eye Improved  
Revolution Select Mixture Improved

### Ornamental Pepper

Hot Pops Yellow

### F1 Sunflower

SunBuzz

## CUT FLOWERS

### Celosia

Sunday Bright Pink  
Sunday Cherry  
Sunday Orange Improved  
Sunday Purple

### F1 Dianthus

Sweet Purple Improved

## HANDPICKED VEGETABLES & HERBS

### F1 Hot Pepper

Habanero Primero Red

### F1 Mini Bell Pepper

Snackabelle Red

### Mini Butternut Squash

Butterbaby

*Now supplied as Precision  
Multi-Pellets:*

SimplyHerbs Dill  
SimplyHerbs Curled Parsley  
SimplyHerbs Flat Parsley  
Simply Herbs Rosemary

**SUBSTRATE  
MOISTURE LEVEL  
TABLE**

	Level 1 Dry	Level 2 Medium Dry	Level 3 Medium	Level 4 Medium Wet	Level 5 Saturated
Substrate colour	Very light brown or gray	Light brown	Brown to dark brown	Dark brown	Brown-black, glistening with water
Substrate feel when squeezed in hand	No moisture is detected in substrate	Substrate squeaks when squeezed	A small drop of water can be squeezed from the substrate	Water can be easily squeezed from the substrate	Water runs freely out of the substrate
Substrate structure	Substrate is dusty and freely scatters when blown	Substrate will barely stick together under pressure	Substrate will clump together but cracks apart under its own weight	Substrate easily clumps together and stays as one clump	Substrate has a semi-liquid consistency

**USDA PLANT HARDINESS ZONE  
AND AVERAGE ANNUAL MINIMUM  
TEMPERATURE RANGE**

Zone	Fahrenheit	Celsius
1	Below -50°F	Below -46°C
2	-45 to -40°F	-43 to -40°C
3	-40 to -30°F	-40 to -34°C
4	-30 to -20°F	-34 to -29°C
5	-20 to -10°F	-29 to -23°C
6	-10 to 0°F	-23 to -18°C
7	0 to 10°F	-18 to -12°C
8	10 to 20°F	-12 to -7°C
9	20 to 30°F	-7 to -1°C
10	30 to 40°F	-1 to 4°C
11	above 40°F	above 4°C

**CONTAINER CONVERSION FROM CM TO IN.**

European Container	Equivalent U.S. Container
9 cm 5° - H	3.5 in. Standard
10.5 cm 5° - L	4 in. Azalea
10.5 cm 5° - H	4 in. Standard
11 cm 8° - H	4.25 in. Standard
12 cm 8° - H	4.5 in. Geranium
13 cm 8° - L	5 in. Azalea
13 cm 5° - H	5 in. Standard
14 cm 5° - H	6 in. Trade
15 cm 5° - L	6 in. Azalea
15 cm 5° - H	6 in. Standard
17 cm - L	6.5 in. Azalea
15 to 18 cm - H	Trade Gallon
19 cm - L	8 in. Standard
23 cm/5 liter	8 in. /1.5 Gallon
25 cm/7-7.5 liter	10 in. /2 Gallon
30 cm/10 liter	12 in. /2.5 Gallon
25 cm Hanging Basket	10 in. Hanging Basket
30 cm Hanging Basket	12 in. Hanging Basket

**FERTILIZER RATE TABLE**

Fertilizer Rate	PPM Nitrogen	EC (mS/cm)
One	Less than 100 ppm	Less than 0.7 EC
Two	100 to 175 ppm	0.7 to 1.2 EC
Three	175 to 225 ppm	1.2 to 1.5 EC
Four	225 to 300 ppm	1.5 to 2.0 EC
Five	More than 300 ppm	More than 2.0 EC

**KEY TO SYMBOLS:**

COT - Coated seed  
 DTL - De-tailed seed  
 MPL - Multi-seed pellet  
 PEL - Pelleted seed  
 PMPL - Precision Multi-Pellet  
 PRM - Primed seed  
 RAW - Raw seed  
 TRT - Treated seed

Additional culture info online at [panamseed.com/culture](http://panamseed.com/culture)

*NOTE:* Growers should use the information presented here as guidelines only. PanAmerican Seed recommends that growers conduct a trial of products under their own conditions. Crop times will vary depending on the climate, location, time of year, and greenhouse environmental conditions. It is the responsibility of the grower to read and follow all the current label directions relating to the products. Nothing herein shall be deemed a warranty or guaranty by PanAmerican Seed of any products listed herein. PanAmerican Seed's terms and conditions of sale shall apply to all products listed herein. Visit [panamseed.com](http://panamseed.com) for current Terms & Conditions of Sale.





**PERENNIALS** PROPAGATION GUIDE P. 82 / FINISHING GUIDE P. 96 / FORCING GUIDE P. 110

**POT PLANTS** PROPAGATION GUIDE P. 114 / FINISHING GUIDE P. 128

**CUT FLOWERS** PROPAGATION GUIDE P. 136 / FINISHING GUIDE P. 144

**HANDPICKED VEGETABLES & HERBS** PROPAGATION GUIDE P. 154 / FINISHING GUIDE P. 166

# annuals

PanAmerican Seed®

CLASS/SERIES	SEED FORM	RECOMMENDED PLUG SIZE	PLUG CROP WEEKS	SEEDS/CELL	COVER SEED	DAYS TO GERMINATE	INITIAL MEDIA PH/EC	STAGE 1	STAGE 2	STAGE 3	STAGE 4	KEY TIPS
ABUTILON <i>Abutilon x hybridum</i> <b>Bella Series</b>	RAW	288	4-5	1	Yes	3	5.5-6.3 pH 0.75 mmhos/cm	(m) Level 4 (t) 72-75°F (22-24°C) (l) Optional	(m) Level 3-4 (t) 65-72°F (18-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 65-70°F (18-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3 (t) 62-65°F (17-18°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	
AGERATUM <i>Ageratum houstonianum</i> <b>High Tide® F<sub>1</sub> Series</b>	PEL	288	4-5	1	No	3	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 72-75°F (22-24°C) (l) Optional	(m) Level 3-4 (t) 65-70°F (18-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 65-70°F (18-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 3 (t) 60-65°F (16-18°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Do not let the seedlings wilt, as ageratum doesn't like moisture stress.
ALTERNANTHERA <i>Alternanthera dentata</i> <b>Purple Knight</b>	RAW	288	4	1	Light cover	3-4	5.5-6.3 pH 0.75 mmhos/cm	(m) Level 4 (t) 72-76°F (22-24°C) (l) Light	(m) Level 3-4 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 65-71°F (18-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 3-4 (t) 62-65°F (17-18°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	
ALTERNANTHERA <i>Alternanthera brasiliana</i> <b>Purple Prince</b>	RAW	288	4	1	Light cover	3-4	5.5-6.3 pH 0.75 mmhos/cm	(m) Level 4 (t) 72-76°F (22-24°C) (l) Light	(m) Level 3-4 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 65-71°F (18-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 3-4 (t) 62-65°F (17-18°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	A paclobutrazol sprench at 1 ppm, 1 week before plug finish, can be useful to control growth when this item is used in combination planters.
ALYSSUM <i>Lobularia maritima</i> <b>Clear Crystal® Series</b>	COT, MPL	288	4	5-6 1	Yes	3-4	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 70-72°F (21-22°C)	(m) Level 3 (t) 65-75°F (18-24°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3 (t) 65-75°F (18-24°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2 (t) 60-70°F (16-21°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Sow 1 multi-seed pellet or multiple-sow film-coated seed with 5 to 6 seeds per cell for best performance. Note that the multi-seed pellet form requires a thick layer of vermiculite and sufficient water to dissolve the pellet at sowing; this is especially true in low humidity environments. PGRs are not generally required for plug propagation. It is recommended to incorporate a Downy Mildew preventative fungicide program for alyssum plug propagation.
ALYSSUM <i>Lobularia maritima</i> <b>Easter Bonnet Series</b>	COT, RAW	288	4	5-6	Light cover	3-4	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 70-72°F (21-22°C) (l) Optional	(m) Level 3 (t) 65-75°F (18-24°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3 (t) 65-75°F (18-24°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2 (t) 60-70°F (16-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Multi-sowing is recommended with 5 to 6 seeds per plug cell. PGRs are not generally required for plug propagation. It is recommended to incorporate a Downy Mildew preventative fungicide program for alyssum plug propagation.
ALYSSUM <i>Lobularia maritima</i> <b>Snow Crystals</b>	RAW	288	4	5-6	Light cover	3-4	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 70-72°F (21-22°C) (l) Optional	(m) Level 3 (t) 65-75°F (18-24°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3 (t) 65-75°F (18-24°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2 (t) 60-70°F (16-21°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Multi-sowing is recommended with 5 to 6 seeds per plug cell. PGRs are not generally required for plug propagation. It is recommended to incorporate a Downy Mildew preventative fungicide program for alyssum plug propagation.
ANGELONIA <i>Angelonia angustifolia</i> <b>Serena® F<sub>1</sub> Series</b>	PEL	288 128	5-6 6-7	1 1	No	4-5	5.5-6.0 pH 0.75 mmhos/cm	(m) Level 4 (t) 71-76°F (22-24°C) (l) Light	(m) Level 3 (t) 68-73°F (20-23°C) (l) 8 mol-m <sup>-2</sup> -d <sup>-1</sup> , 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 68-73°F (20-23°C) (l) 8-12 mol-m <sup>-2</sup> -d <sup>-1</sup> , 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) daminozide 2,500-5,000 ppm Spray	(m) Level 2-4 (t) 65-67°F (18-19°C) (l) 8-15 mol-m <sup>-2</sup> -d <sup>-1</sup> , 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) daminozide 2,500-5,000 ppm Spray	Light is required for germination. Grow on the dry side, but do not allow plants to wilt.
ANGELONIA <i>Angelonia angustifolia</i> <b>Serenita® F<sub>1</sub> Series</b>	PEL	288 128	5-6 6-7	1 1	No	4-5	5.5-6.0 pH 0.75 mmhos/cm	(m) Level 4 (t) 71-76°F (22-24°C) (l) Light	(m) Level 3 (t) 68-73°F (20-23°C) (l) 8 mol-m <sup>-2</sup> -d <sup>-1</sup> , 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 68-73°F (20-23°C) (l) 8-12 mol-m <sup>-2</sup> -d <sup>-1</sup> , 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) daminozide 2,500-5,000 ppm Spray	(m) Level 2-4 (t) 65-67°F (18-19°C) (l) 8-15 mol-m <sup>-2</sup> -d <sup>-1</sup> , 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) daminozide 2,500-5,000 ppm Spray	Light is required for germination. Grow on the dry side, but do not allow plants to wilt.
ASTER <i>Callistephus chinensis</i> <b>Pot 'N Patio Series</b>	RAW	288	4-5	1	Yes	3-4	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 68-72°F (20-22°C)	(m) Level 3-4 (t) 65-72°F (18-22°C) (l) 2,500 f.c. (26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 65-72°F (18-22°C) (l) 2,500 f.c. (26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 3 (t) 60-70°F (16-21°C) (l) 5,000 f.c. (53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	
BACOPA <i>Sutera cordata</i> <b>Blutopia® F<sub>1</sub></b>	MPL	288 128	3-4 4	1 1	No	4	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 68-74°F (20-23°C) (l) Light (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 65-75°F (18-24°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 65-75°F (18-24°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 3 (t) 60-70°F (16-21°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) daminozide 640-950 ppm Spray	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.
BACOPA <i>Sutera cordata</i> <b>Snowtopia® F<sub>1</sub></b>	MPL	288 128	3-4 4	1 1	No	4	5.5-6.0 pH 0.75 mmhos/cm	(m) Level 4 (t) 68-74°F (20-23°C) (l) Light	(m) Level 3-4 (t) 65-75°F (18-24°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 65-75°F (18-24°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 3 (t) 60-70°F (16-21°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) daminozide 640-950 ppm Spray	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.

CLASS/SERIES	SEED FORM	RECOMMENDED PLUG SIZE	PLUG CROP WEEKS	SEEDS/CELL	COVER SEED	DAYS TO GERMINATE	INITIAL MEDIA PH/EC	STAGE 1	STAGE 2	STAGE 3	STAGE 4	KEY TIPS
BEGONIA <i>Begonia x hybrida</i> <b>BabyWing® F<sub>1</sub> Series</b>	PEL	288	7-8	1	No	7-10	5.8-6.2 pH 0.5 mmhos/cm	(m) Level 5 (t) 72-77°F (22-25°C) (l) Optional	(m) Level 4-5 (t) 72-75°F (22-24°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 72-75°F (22-24°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 3 (t) 65-67°F (18-19°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Keep moisture high until the first true leaf develops.
BEGONIA <i>Begonia x hybrida</i> <b>Dragon Wing® F<sub>1</sub> Series</b>	PEL	288	7-8	1	No	7-10	5.4-6.0 pH 0.5 mmhos/cm	(m) Level 5 (t) 72-77°F (22-25°C) (l) Optional	(m) Level 4-5 (t) 72-75°F (22-24°C) (l) 400-2,000 f.c. (4,300-21,500 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 72-75°F (22-24°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 3 (t) 65-67°F (18-19°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Keep moisture high until the first true leaf develops.
BEGONIA <i>Begonia x hybrida</i> <b>Gryphon</b>	MPL	288	8-9	1	No	10-12	5.8-6.2 pH 0.5 mmhos/cm	(m) Level 5 (t) 72-78°F (22-26°C) (l) Light	(m) Level 4-5 (t) 71-76°F (22-24°C) (l) 2,000-2,500 f.c. (21,500-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-73°F (20-23°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 3 (t) 65-67°F (18-19°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	A saturated media and high relative humidity are critical to successful germination.
BEGONIA <i>Begonia interspecific</i> <b>Megawatt F<sub>1</sub> Series</b>	PEL	288	7-8	1	No	7-10	5.8-6.2 pH 0.5 mmhos/cm	(m) Level 5 (t) 72-77°F (22-25°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 4-5 (t) 72-75°F (22-24°C) (l) 6 mol·m <sup>-2</sup> ·d <sup>-1</sup> , 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 72-75°F (22-24°C) (l) 6-8 mol·m <sup>-2</sup> ·d <sup>-1</sup> , 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 3 (t) 65-67°F (18-19°C) (l) 6-8 mol·m <sup>-2</sup> ·d <sup>-1</sup> , 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Keep soil moist until the first true leaf develops.
CALIBRACHOA <i>Calibrachoa x hybrida</i> <b>Crave Collection F<sub>1</sub> Series</b>	PEL	288 128	5-6 7-8	1 1	Optional	5-7	5.5-5.8 pH 0.75 mmhos/cm	(m) Level 5 (t) 72-75°F (22-24°C) (l) Optional	(m) Level 4 (t) 68-72°F (20-22°C) (l) 10-12 mol·m <sup>-2</sup> ·d <sup>-1</sup> (f) Less than 100 ppm N - Less than 0.7 EC (p) daminozide 2,500-2,750 ppm Drench or paclobutrazol 3-4 ppm Spray	(m) Level 2-4 (t) 64-68°F (18-20°C) (l) 10-15 mol·m <sup>-2</sup> ·d <sup>-1</sup> (f) Less than 100 ppm N - Less than 0.7 EC (p) daminozide 2,500-2,750 ppm Spray or paclobutrazol 3-4 ppm Spray	(m) Level 2-4 (t) 55-64°F (13-18°C) (l) 10-20 mol·m <sup>-2</sup> ·d <sup>-1</sup> (f) Less than 100 ppm N - Less than 0.7 EC (p) daminozide 2,500-2,750 ppm Spray or paclobutrazol 3-4 ppm Spray	Plug Stage and Timing: Stage 1 at 75°F (25°C) 5 days; Stage 1 at 68°F (20°C) 7 days. Pinch is recommended for small pots and low DLI conditions. Pinch, leaving at least 4 nodes.
CALIBRACHOA <i>Calibrachoa x hybrida</i> <b>Kabloom® F<sub>1</sub> Series</b>	PEL	288 128	5-6 7-8	1 1	Optional	5-7	5.5-5.8 pH 0.75 mmhos/cm	(m) Level 5 (t) 72-75°F (22-24°C) (l) Optional	(m) Level 4 (t) 68-72°F (20-21°C) (l) 10-12 mol·m <sup>-2</sup> ·d <sup>-1</sup> (f) Less than 100 ppm N - Less than 0.7 EC (p) daminozide 2,000-2,500 ppm Spray or paclobutrazol 2-3 ppm Spray	(m) Level 2-4 (t) 64-68°F (18-20°C) (l) 10-15 mol·m <sup>-2</sup> ·d <sup>-1</sup> (f) Less than 100 ppm N - Less than 0.7 EC (p) daminozide 2,000-2,500 ppm Spray or paclobutrazol 2-3 ppm Spray	(m) Level 2-4 (t) 55-64°F (13-18°C) (l) 10-20 mol·m <sup>-2</sup> ·d <sup>-1</sup> (f) Less than 100 ppm N - Less than 0.7 EC (p) daminozide 2,000-2,500 ppm Spray or paclobutrazol 2-3 ppm Spray	Plug Stage and Time vary by variety. For fast-germinating Kabloom White, Kabloom Deep Pink, Kabloom Denim and Kabloom Yellow: Stage 1 at 75°F (25°C) for 5 days; Stage 1 at 68°F (20°C) for 5-7 days. For slow-germinating Kabloom Deep Blue: Stage 1 at 75°F (25°C) for 7-10 days; Stage 1 at 68°F (20°C) for 10+ days. Pinch is recommended for small pots and low DLI conditions. Pinch, leaving at least 4 nodes.
CELOSIA <i>Celosia cristata</i> <b>Dracula</b>	COT	288	3-4	1	Light cover	2-4	5.8-6.2 pH 0.7-1.2 mmhos/cm	(m) Level 4 (t) 68-72°F (20-22°C) (l) Light	(m) Level 4 (t) 68-72°F (20-22°C) (l) 1,500-2,500 f.c. (16,100-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-72°F (20-22°C) (l) 1,500-2,500 f.c. (16,100-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 3-4 (t) 68-72°F (20-22°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Keep media constantly moist; do not allow to dry out. Celosia Dracula can respond to daylength at a very early stage. Best is to sow and grow plugs between 11 and 14 hours daylength. A 3 to 4-week period of 12 to 14 hours LIP treatment after sowing (during plug stage) will work well to speed up flower timing and reduce flower non-uniformity and deformation when produced in unfavorable daylengths.
CELOSIA <i>Celosia plumosa</i> <b>First Flame Series</b>	COT	288	3-4	1	Light cover	2-4	5.8-6.2 pH 0.7-1.2 mmhos/cm	(m) Level 4 (t) 70-72°F (21-22°C) (l) Light	(m) Level 4 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 3-4 (t) 68-72°F (20-22°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	To prevent premature flowering, keep growing plugs under daylength of 14 hours or longer due to short day flowering response. Don't allow media to dry out. Celosia makes a taproot and is sensitive to root damage. Transplant on time and do not allow seedlings to get rootbound.
CELOSIA <i>Celosia plumosa</i> <b>Ice Cream Series</b>	COT	288	3-4	1	Light cover	2-4	5.8-6.2 pH 0.7-1.2 mmhos/cm	(m) Level 4 (t) 77°F (25°C) (l) Light	(m) Level 4 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 3-4 (t) 68-72°F (20-22°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Keep media constantly moist; do not allow to dry out. To prevent premature flowering, keep growing plugs under daylength of 14 hours or longer due to short-day flowering response.
CELOSIA <i>Celosia spicata</i> <b>Kosmo Series</b>	COT	288	3-4	1	Light cover	2-4	5.5-6.2 pH 0.7-1.2 mmhos/cm	(m) Level 4 (t) 70-72°F (21-22°C) (l) Light	(m) Level 4 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 3-4 (t) 68-72°F (20-22°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Keep media constantly moist; do not allow to dry out. Celosia makes a taproot and is sensitive to root damage.
COLEUS <i>Solenostemon scutellarioides</i> <b>Black Dragon</b>	RAW	288	5-6	1	Light cover	4-5	5.5-5.8 pH 0.75 mmhos/cm	(m) Level 4 (t) 72-75°F (22-24°C) (l) Optional	(m) Level 3-4 (t) 72-75°F (22-24°C) (l) 2,500 f.c. (26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 2,500 f.c. (26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-4 (t) 60-62°F (16-17°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Coleus is very sensitive to high salts, particularly high ammonium. During germination, keep ammonium levels lower than 10 ppm. PGRs are generally not needed.

CLASS/SERIES	SEED FORM	RECOMMENDED PLUG SIZE	PLUG CROP WEEKS	SEEDS/CELL	COVER SEED	DAYS TO GERMINATE	INITIAL MEDIA PH/EC	STAGE 1	STAGE 2	STAGE 3	STAGE 4	KEY TIPS
COLEUS <i>Solenostemon scutellarioides</i> <b>Wizard® Series</b>	RAW	288	5-6	1	Light cover	4-5	5.5-5.8 pH 0.75 mmhos/cm	(m) Level 4 (t) 72-75°F (22-24°C) (l) Optional	(m) Level 3-4 (t) 72-75°F (22-24°C) (l) 2,500 f.c. (26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 2,500 f.c. (26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-4 (t) 60-62°F (16-17°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Coleus is very sensitive to high salts, particularly high ammonium. During germination, keep ammonium levels lower than 10 ppm. PGRs are generally not needed.
COLEUS, PREMIUM SHADE <i>Solenostemon scutellarioides</i> <b>Kong Jr. Series</b>	PEL	288	5-6	1	Light cover	4-5	5.5-5.8 pH 0.75 mmhos/cm	(m) Level 4 (t) 72-75°F (22-24°C) (l) Optional	(m) Level 3-4 (t) 72-75°F (22-24°C) (l) 2,500 f.c. (26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 2,500 f.c. (26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-4 (t) 60-62°F (16-17°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Coleus is very sensitive to high salts, particularly high ammonium. During germination, keep ammonium levels lower than 10 ppm. PGRs are generally not needed.
COLEUS, PREMIUM SHADE <i>Solenostemon scutellarioides</i> <b>Kong® Series</b>	PEL	288	5-6	1	Light cover	4-5	5.5-5.8 pH 0.75 mmhos/cm	(m) Level 4 (t) 72-75°F (22-24°C) (l) Optional	(m) Level 3-4 (t) 72-75°F (22-24°C) (l) 2,500 f.c. (26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 2,500 f.c. (26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-4 (t) 60-62°F (16-17°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Coleus is very sensitive to high salts, particularly high ammonium. During germination, keep ammonium levels lower than 10 ppm. PGRs are generally not needed.
COLEUS, PREMIUM SUN <i>Solenostemon scutellarioides</i> <b>Chocolate Covered Cherry</b>	PEL	288	5-6	1	Light cover	4-5	5.5-5.8 pH 0.75 mmhos/cm	(m) Level 4 (t) 72-75°F (22-24°C) (l) Optional	(m) Level 3-4 (t) 72-75°F (22-24°C) (l) 2,500 f.c. (26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 2,500 f.c. (26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-4 (t) 60-62°F (16-17°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Coleus is very sensitive to high salts, particularly high ammonium. During germination, keep ammonium levels lower than 10 ppm. PGRs are generally not needed.
COLEUS, PREMIUM SUN <i>Solenostemon scutellarioides</i> <b>Chocolate Mint</b>	PEL	288	5-6	1	Light cover	4-5	5.5-5.7 pH 0.75 mmhos/cm	(m) Level 4 (t) 72-75°F (22-24°C) (l) Optional	(m) Level 3-4 (t) 72-75°F (22-24°C) (l) 2,500 f.c. (26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 2,500 f.c. (26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-4 (t) 60-62°F (16-17°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Coleus is very sensitive to high salts, particularly high ammonium. During germination, keep ammonium levels lower than 10 ppm. PGRs are generally not needed.
COLEUS, PREMIUM SUN <i>Solenostemon scutellarioides</i> <b>Crimson Gold</b>	PEL	288	5-6	1	Light cover	4-5	5.5-5.8 pH 0.75 mmhos/cm	(m) Level 4 (t) 72-75°F (22-24°C) (l) Optional	(m) Level 3-4 (t) 72-75°F (22-24°C) (l) 2,500 f.c. (26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 2,500 f.c. (26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-4 (t) 60-62°F (16-17°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Coleus is very sensitive to high salts, particularly high ammonium. During germination, keep ammonium levels lower than 10 ppm. PGRs are generally not needed.
COLEUS, PREMIUM SUN <i>Solenostemon scutellarioides</i> <b>Dark Chocolate</b>	PEL	288	5-6	1	Light cover	4-5	5.5-5.8 pH 0.75 mmhos/cm	(m) Level 4 (t) 72-75°F (22-24°C) (l) Optional	(m) Level 3-4 (t) 72-75°F (22-24°C) (l) 2,500 f.c. (26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 2,500 f.c. (26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-4 (t) 60-62°F (16-17°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Coleus is very sensitive to high salts, particularly high ammonium. During germination, keep ammonium levels lower than 10 ppm. PGRs are generally not needed.
COLEUS, PREMIUM SUN <i>Solenostemon scutellarioides</i> <b>Lime Delight</b>	PEL	288	5-6	1	Light cover	4-5	5.5-5.8 pH 0.75 mmhos/cm	(m) Level 4 (t) 72-75°F (22-24°C) (l) Optional	(m) Level 3-4 (t) 72-75°F (22-24°C) (l) 2,500 f.c. (26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 2,500 f.c. (26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-4 (t) 60-62°F (16-17°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Coleus is very sensitive to high salts, particularly high ammonium. During germination, keep ammonium levels lower than 10 ppm. PGRs are generally not needed.
COLEUS, PREMIUM SUN <i>Solenostemon scutellarioides</i> <b>Mighty Mosaic</b>	PEL	288	5-6	1	Light cover	4-5	5.5-5.8 pH 0.75 mmhos/cm	(m) Level 4 (t) 72-75°F (22-24°C) (l) Optional	(m) Level 3-4 (t) 72-75°F (22-24°C) (l) 2,500 f.c. (26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 2,500 f.c. (26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-4 (t) 60-62°F (16-17°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Coleus is very sensitive to high salts, particularly high ammonium. During germination, keep ammonium levels lower than 10 ppm. PGRs are generally not needed.
COLEUS, PREMIUM SUN <i>Solenostemon scutellarioides</i> <b>Pineapple Surprise</b>	PEL	288	5-6	1	Light cover	4-5	5.5-5.8 pH 0.75 mmhos/cm	(m) Level 4 (t) 72-75°F (22-24°C) (l) Optional	(m) Level 3-4 (t) 72-75°F (22-24°C) (l) 2,500 f.c. (26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 2,500 f.c. (26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-4 (t) 60-62°F (16-17°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Coleus is very sensitive to high salts, particularly high ammonium. During germination, keep ammonium levels lower than 10 ppm. PGRs are generally not needed.
COLEUS, PREMIUM SUN <i>Solenostemon scutellarioides</i> <b>Rose to Lime Magic</b>	PEL	288	5-6	1	Light cover	4-5	5.5-5.8 pH 0.75 mmhos/cm	(m) Level 4 (t) 72-75°F (22-24°C) (l) Optional	(m) Level 3-4 (t) 72-75°F (22-24°C) (l) 2,500 f.c. (26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 2,500 f.c. (26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-4 (t) 60-62°F (16-17°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Coleus is very sensitive to high salts, particularly high ammonium. During germination, keep ammonium levels lower than 10 ppm. PGRs are generally not needed.
COLEUS, PREMIUM SUN <i>Solenostemon scutellarioides</i> <b>Watermelon</b>	PEL	288	5-6	1	Light cover	4-5	5.5-5.8 pH 0.75 mmhos/cm	(m) Level 4 (t) 72-75°F (22-24°C) (l) Optional	(m) Level 3-4 (t) 72-75°F (22-24°C) (l) 2,500 f.c. (26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 2,500 f.c. (26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-4 (t) 60-62°F (16-17°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Coleus is very sensitive to high salts, particularly high ammonium. During germination, keep ammonium levels lower than 10 ppm. PGRs are generally not needed.
COLORGRASS ANEMANTHELE <i>Anemanthele lessoniana</i> <b>Sirocco</b>	MPL	288	5-6	1	No	5-6	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 65-76°F (18-24°C) (l) Optional	(m) Level 3-4 (t) 65-70°F (18-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 65-70°F (18-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-3 (t) 65-67°F (18-19°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Colour is better under cool and high light conditions. If temperature permits, it is best to produce Sirocco in outdoor conditions.



CLASS/SERIES	SEED FORM	RECOMMENDED PLUG SIZE	PLUG CROP WEEKS	SEEDS/CELL	COVER SEED	DAYS TO GERMINATE	INITIAL MEDIA PH/EC	STAGE 1	STAGE 2	STAGE 3	STAGE 4	KEY TIPS
COLORGRASS CAREX <i>Carex comans</i> <b>Amazon Mist</b>	MPL	288	6-7	1	Yes	7-10	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 68-79°F (20-26°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-3 (t) 65-67°F (18-19°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	
COLORGRASS CAREX <i>Carex comans</i> <b>Bronco</b>	MPL	288	6-7	1	No	7-10	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 74-79°F (23-26°C) (l) Optional	(m) Level 3-4 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-3 (t) 65-67°F (18-19°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	
COLORGRASS CAREX <i>Carex comans</i> <b>Phoenix Green</b>	MPL	288	5-7	1	No	7-10	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 74-79°F (23-26°C) (l) Optional	(m) Level 3-4 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-3 (t) 65-67°F (18-19°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	
COLORGRASS CAREX <i>Carex buchananii</i> <b>Red Rooster</b>	MPL	288	6-7	1	No	7-10	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 74-79°F (23-26°C) (l) Optional	(m) Level 3 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-3 (t) 65-67°F (18-19°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	
COLORGRASS CORYNEPHORUS <i>Corynephorus canescens</i> <b>Spiky Blue</b>	MPL	288	6-7	1	Light cover	3-6	5.5-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 68-79°F (20-26°C) (l) Optional	(m) Level 3-4 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-3 (t) 65-67°F (18-19°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	
COLORGRASS FESTUCA <i>Festuca cinerea (Festuca glauca)</i> <b>Festina</b>	MPL	288	6-7	1	Yes	3-6	5.5-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 64-72°F (18-22°C) (l) Optional	(m) Level 3-4 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-3 (t) 65-67°F (18-19°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	
COLORGRASS ISOLEPIS <i>Isolepis cernua</i> <b>Live Wire</b>	MPL	288	5	1	No	6	5.5-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 64-68°F (18-20°C) (l) Light	(m) Level 3-4 (t) 64-70°F (18-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 64-68°F (18-20°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-3 (t) 64-66°F (18-19°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Sow uncovered at 65°F (18°C) for fastest and most uniform germination; prefers moist soil.
COLORGRASS JUNCUS <i>Juncus inflexus</i> <b>Blue Arrows</b>	MPL	288	6-7	1	No	7-8	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 71-76°F (22-24°C) (l) Optional	(m) Level 3-4 (t) 64-70°F (18-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 64-68°F (18-20°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-3 (t) 64-66°F (18-19°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	
COLORGRASS JUNCUS <i>Juncus tenuis</i> <b>Blue Dart</b>	MPL	288	6-7	1	No	7-8	5.5-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 71-76°F (22-24°C) (l) Light	(m) Level 3-4 (t) 64-70°F (18-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 64-68°F (18-20°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-3 (t) 64-66°F (18-19°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Excellent substitute for Draecena Spike.
COLORGRASS JUNCUS <i>Juncus pallidus</i> <b>Javelin</b>	MPL	288	5-6	1	No	5-6	5.5-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 71-76°F (22-24°C) (l) Light	(m) Level 3-4 (t) 64-70°F (18-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 64-68°F (18-20°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-3 (t) 64-66°F (18-19°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	To prevent leaf bending, a Bonzi 30 ppm spray can be used.
COLORGRASS JUNCUS <i>Juncus ensifolius</i> <b>Starhead</b>	MPL	288	6-7	1	No	7-10	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 64-72°F (18-22°C) (l) Optional	(m) Level 3-4 (t) 64-79°F (18-26°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 64-72°F (18-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-3 (t) 61-64°F (16-18°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	
COLORGRASS KOELERIA <i>Koeleria glauca</i> <b>Coolio</b>	MPL	288	6-7	1	No	4-5	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 65-74°F (18-23°C) (l) Light	(m) Level 3-4 (t) 68-70°F (20-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 68-70°F (20-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-3 (t) 65-67°F (18-19°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Requires light to germinate.
COLORGRASS LUZULA <i>Luzula nivea</i> <b>Lucius</b>	MPL	288	4-7	1	Yes	10-12	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 64-68°F (18-20°C) (l) Light	(m) Level 3-4 (t) 64-68°F (18-20°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 64-68°F (18-20°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-3 (t) 61-64°F (16-18°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Requires light to germinate. Make sure plants don't get too wet.
COLORGRASS STIPA <i>Stipa tenuissima</i> <b>Pony Tails</b>	MPL	288	4-5	1	No	4-5	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 64-75°F (18-24°C) (l) Optional	(m) Level 3-4 (t) 65-70°F (18-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 65-70°F (18-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-3 (t) 65-67°F (18-19°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	
COSMOS <i>Cosmos bipinnatus</i> <b>Antiquity</b>	RAW	288	4-5	1	Yes	3-5	5.7-5.9 pH 0.3-0.5 mmhos/cm	(m) Level 4 (t) 61-65°F (16-18°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 61-65°F (16-18°C) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 61-65°F (16-18°C) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 61-65°F (16-18°C) (f) Less than 100 ppm N - Less than 0.7 EC	Can treat the plugs at early Stage 1 with Bonzi at 15 ppm applied as a spray to control early stretch. Daylength extension in the plug stage may be used to prevent premature flowering.

CLASS/SERIES	SEED FORM	RECOMMENDED PLUG SIZE	PLUG CROP WEEKS	SEEDS/CELL	COVER SEED	DAYS TO GERMINATE	INITIAL MEDIA PH/EC	STAGE 1	STAGE 2	STAGE 3	STAGE 4	KEY TIPS
COSMOS <i>Cosmos bipinnatus</i> <b>Sonata Series</b>	RAW	288	4-5	1	Yes	3-4	5.7-5.9 pH 0.3-0.5 mmhos/cm	(m) Level 4 (t) 61-65°F (16-18°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 61-65°F (16-18°C) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-3 (t) 61-65°F (16-18°C) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-3 (t) 61-65°F (16-18°C) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Can treat the plugs at early Stage 1 with Bonzi at 15 ppm applied as a spray to control early stretch. Daylength extension in the plug stage may be used to prevent premature flowering.
CROSSANDRA <i>Crossandra infundibuliformis</i> <b>Tropic Series</b>	RAW	288	7	1	Yes	7-10	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 78-82°F (26-28°C) (l) Optional	(m) Level 3-4 (t) 70-72°F (21-22°C) (l) 1,000-1,500 f.c. (10,800-16,100 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 70-72°F (21-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 3 (t) 70-72°F (21-22°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	
CUPHEA <i>Cuphea ignea</i> <b>Dynamite</b>	RAW	288	5-6	3-4	Light cover	4-6	5.5-5.8 pH 0.75 mmhos/cm	(m) Level 4 (t) 70-75°F (21-24°C) (l) Light (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (l) 2,500 f.c. (26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (l) 2,500 f.c. (26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 3-4 (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	No PGRs required.
CYCLAMEN <i>Cyclamen persicum</i> <b>Dreamscape F1 Series</b>	RAW	288 128	8-9	1	Yes	19-21	5.6-5.8 pH 0.8 mmhos/cm	(m) Level 4-5 (t) 64°F (18°C) (l) Dark (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 4-5 (t) 62-64°F (17-18°C) (l) 10-15 mol·m <sup>-2</sup> ·d <sup>-1</sup> (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 3-4 (t) 61-64°F (16-18°C) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-3 (t) 61-64°F (16-18°C) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Option is to transplant the plug into 60-72 cell tray and extend plug stage around 6-7 weeks before potting. This will reduce crop time after potting and plugs can be grown in a more controlled condition for a longer period.
DAHLIA <i>Dahlia x hybrida</i> <b>Figaro® Series</b>	RAW	288	4-5	1	Yes	3-7	5.5-5.8 pH 0.5-0.75 mmhos/cm	(m) Level 3 (t) 68-73°F (20-23°C)	(m) Level 3 (t) 68-73°F (20-23°C) (l) 1,500-3,000 f.c. (16,100-32,300 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 65-70°F (18-21°C) (l) 1,500-3,000 f.c. (16,100-32,300 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-3 (t) 65-70°F (18-21°C) (l) 2,500-4,000 f.c. (26,900-43,100 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	If a germ chamber is used, move trays to the greenhouse at first sign of germination.
DESCHAMPSIA <i>Deschampsia elongata</i> <b>Zephyr</b>	MPL	288	4-5	1	No	4-5	5.5-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 65-71°F (18-22°C) (l) Light	(m) Level 3-4 (t) 64-70°F (18-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 64-68°F (18-20°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-3 (t) 64-66°F (18-19°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	
DIANTHUS <i>Dianthus chinensis x barbatus</i> <b>Corona F1 Series</b>	PEL	288	4-6	1	Yes	3-5	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 64-68°F (18-20°C) (l) Optional	(m) Level 3-4 (t) 65-70°F (18-21°C) (l) 5-8 mol·m <sup>-2</sup> ·d <sup>-1</sup> (f) Less than 100 ppm N - Less than 0.7 EC (p) paclobutrazol 5 ppm Spray	(m) Level 2-3 (t) 60-65°F (16-18°C) (l) 8-10 mol·m <sup>-2</sup> ·d <sup>-1</sup> (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) paclobutrazol 5 ppm Spray	(m) Level 2-3 (t) 55-60°F (13-16°C) (l) 10 mol·m <sup>-2</sup> ·d <sup>-1</sup> (f) 100 to 175 ppm N - 0.7 to 1.2 EC	
DIANTHUS <i>Dianthus barbatus</i> <b>Dash F1 Series</b>	PEL	288	5-6	1	Yes	3-4	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 64-68°F (18-20°C) (l) Optional	(m) Level 3-4 (t) 65-70°F (18-21°C) (l) 5-8 mol·m <sup>-2</sup> ·d <sup>-1</sup> (f) Less than 100 ppm N - Less than 0.7 EC (p) paclobutrazol 5 ppm Spray	(m) Level 2-3 (t) 60-65°F (16-18°C) (l) 8-10 mol·m <sup>-2</sup> ·d <sup>-1</sup> (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) paclobutrazol 5 ppm Spray	(m) Level 2-3 (t) 55-60°F (13-16°C) (l) 10 mol·m <sup>-2</sup> ·d <sup>-1</sup> (f) 175 to 225 ppm N - 1.2 to 1.5 EC	
DIANTHUS <i>Dianthus barbatus interspecific</i> <b>Dynasty F1 Series</b>	PEL	288	5-6	1	Yes	3-4	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 64-68°F (18-20°C) (l) Optional	(m) Level 3-4 (t) 65-70°F (18-21°C) (l) 5-8 mol·m <sup>-2</sup> ·d <sup>-1</sup> (f) Less than 100 ppm N - Less than 0.7 EC (p) paclobutrazol 5 ppm Spray	(m) Level 2-3 (t) 60-65°F (16-18°C) (l) 8-10 mol·m <sup>-2</sup> ·d <sup>-1</sup> (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) paclobutrazol 5 ppm Spray	(m) Level 2-3 (t) 55-60°F (13-16°C) (l) 10 mol·m <sup>-2</sup> ·d <sup>-1</sup> (f) 175 to 225 ppm N - 1.2 to 1.5 EC	
DIANTHUS <i>Dianthus chinensis x barbatus</i> <b>Floral Lace F1 Series</b>	PEL, RAW	288	4-6	1	Yes	3-5	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 64-68°F (18-20°C) (l) Optional	(m) Level 3-4 (t) 65-70°F (18-21°C) (l) 5-8 mol·m <sup>-2</sup> ·d <sup>-1</sup> (f) Less than 100 ppm N - Less than 0.7 EC (p) paclobutrazol 5 ppm Spray	(m) Level 2-3 (t) 60-65°F (16-18°C) (l) 8-10 mol·m <sup>-2</sup> ·d <sup>-1</sup> (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) paclobutrazol 5 ppm Spray	(m) Level 2-3 (t) 55-60°F (13-16°C) (l) 10 mol·m <sup>-2</sup> ·d <sup>-1</sup> (f) 175 to 225 ppm N - 1.2 to 1.5 EC	
DIANTHUS <i>Dianthus chinensis x barbatus</i> <b>Ideal Select F1 Series</b>	PEL, RAW	288	4-6	1	Yes	3-5	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 64-68°F (18-20°C) (l) Optional	(m) Level 3-4 (t) 65-70°F (18-21°C) (l) 5-8 mol·m <sup>-2</sup> ·d <sup>-1</sup> (f) Less than 100 ppm N - Less than 0.7 EC (p) paclobutrazol 5 ppm Spray	(m) Level 2-3 (t) 60-65°F (16-18°C) (l) 8-10 mol·m <sup>-2</sup> ·d <sup>-1</sup> (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) paclobutrazol 5 ppm Spray	(m) Level 2-3 (t) 55-60°F (13-16°C) (l) 10 mol·m <sup>-2</sup> ·d <sup>-1</sup> (f) 175 to 225 ppm N - 1.2 to 1.5 EC	
DIANTHUS (INTERSPECIFIC) <i>Dianthus barbatus interspecific</i> <b>Jolt F1 Series</b>	PEL	288	5-6	1	Yes	3-4	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 64-68°F (18-20°C) (l) Optional	(m) Level 3-4 (t) 65-70°F (18-21°C) (l) 5-8 mol·m <sup>-2</sup> ·d <sup>-1</sup> (f) Less than 100 ppm N - Less than 0.7 EC (p) paclobutrazol 5 ppm Spray	(m) Level 2-3 (t) 60-65°F (16-18°C) (l) 8-10 mol·m <sup>-2</sup> ·d <sup>-1</sup> (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) paclobutrazol 5 ppm Spray	(m) Level 2-3 (t) 55-60°F (13-16°C) (l) 10 mol·m <sup>-2</sup> ·d <sup>-1</sup> (f) 175 to 225 ppm N - 1.2 to 1.5 EC	A small percentage (3-5%) of flowering off-types can be observed with Jolt dianthus at 4 to 5 weeks from sowing. These plants should be removed/discarded at transplant.
DICHONDRA <i>Dichondra repens</i> <b>Emerald Falls</b>	MPL	288	5-6	1	Light cover	4-5	5.5-6.3 pH 0.75 mmhos/cm	(m) Level 4 (t) 72-76°F (22-24°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 65-72°F (18-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-3 (t) 65-70°F (18-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) daminozide 2,500 ppm Spray	(m) Level 2-3 (t) 62-65°F (17-18°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Spray daminozide at 2,500 ppm one week before transplant to promote branches. Grows best in warm and dry conditions. Use light feed. Rinse foliage after feeding to avoid salt burn.

CLASS/SERIES	SEED FORM	RECOMMENDED PLUG SIZE	PLUG CROP WEEKS	SEEDS/CELL	COVER SEED	DAYS TO GERMINATE	INITIAL MEDIA PH/EC	STAGE 1	STAGE 2	STAGE 3	STAGE 4	KEY TIPS
DICHONDRA <i>Dichondra argentea</i> <b>Silver Falls</b>	RAW	288	5	1-2	Light cover	4-5	5.5-6.3 pH 0.75 mmhos/cm	(m) Level 4 (t) 72-76°F (22-24°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 65-72°F (18-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-3 (t) 65-70°F (18-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) daminozide 2,500 ppm Spray	(m) Level 2-3 (t) 62-65°F (17-18°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Spray B-Nine at 2,500 ppm one week before transplant to promote branches. Grows best in warm and dry conditions. Use light feed. Rinse foliage after feeding to avoid salt burn.
DUSTY MILLER MARITIMA <i>Senecio cineraria</i> <b>Silverdust</b>	PEL, RAW	288	4-5	1	No	3-5	5.5-5.8 pH 0.75 mmhos/cm	(m) Level 4 (t) 72-75°F (22-24°C) (l) Optional	(m) Level 4-2 (t) 70-75°F (21-24°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-2 (t) 65-70°F (18-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) daminozide 2,500-5,000 ppm Spray	(m) Level 3-2 (t) 60-62°F (16-17°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Preventative fungicide for Alternaria is recommended. Keep foliage as dry as possible to reduce risk of diseases.
ERYSIMUM <i>Erysimum species</i> <b>Citrona® Series</b>	RAW	288	4	1	Yes	2-4	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 68-72°F (20-22°C) (l) Optional	(m) Level 4 (t) 65-70°F (18-21°C) (l) 2,500-3,000 f.c. (26,900-32,300 Lux)	(m) Level 4-3 (t) 60-65°F (16-18°C) (l) 2,500-3,000 f.c. (26,900-32,300 Lux) (f) Less than 100 ppm N - Less than 0.7 EC (p) paclobutrazol 10 ppm Spray	(m) Level 4-2 (t) 55-60°F (13-16°C) (l) 2,500-3,000 f.c. (26,900-32,300 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	
EUPHORBIA <i>Euphorbia graminea</i> <b>Glitz F1</b>	RAW	288 128	4-5 4-5	1 2	Optional	3-6	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 65-72°F (18-22°C) (l) Optional	(m) Level 4 (t) 65-72°F (18-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 65-72°F (18-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) daminozide 2,500 ppm Spray	(m) Level 2-3 (t) 65-72°F (18-22°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) daminozide 2,500 ppm Spray	Avoid temperatures below 62°F (16°C), as cooler temperatures cause foliage yellowing. Plug sizes 128 or larger should be sown at 2 seeds per cell. Can apply daminozide spray for height control, with first application at true leaf stage, followed by a second application 7 days later. An alternative to daminozide would be an application of paclobutrazol sponch at 2.5 ppm or drench at 0.25 to 0.5 ppm at radical emergence. This has been effective in controlling hypocotyl stretch. This should be followed by a single daminozide spray of 2,500 to 5,000 ppm in Stage 3.
FUSEABLES® <i>Sutera cordata</i> <b>Bacopa Series</b>	PMPL	128 288	4-5	1	No	4	5.5-6.0 pH 0.75 mmhos/cm	(m) Level 4 (t) 68-73°F (20-23°C) (l) Light	(m) Level 3-4 (t) 68-70°F (20-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 65-70°F (18-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 3 (t) 59-65°F (15-18°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	
FUSEABLES® <i>Calibrachoa hybrid</i> <b>Calibrachoa Series</b>	PMPL	128 288	4-5	1	No	4-5	5.5-5.8 pH 0.75 mmhos/cm	(m) Level 5 (t) 68-77°F (20-25°C) (l) Optional	(m) Level 4-5 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) daminozide 2,500 ppm Spray	(m) Level 2-4 (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	
FUSEABLES® <i>Solenostemon scutellariodes</i> <b>Coleus Series</b>	PMPL	128 288	5-6	1	Light cover	4-5	5.5-5.8 pH 0.75 mmhos/cm	(m) Level 4 (t) 72-75°F (22-24°C) (l) Optional	(m) Level 3-4 (t) 71-73°F (22-23°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-4 (t) 59-64°F (15-18°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	
FUSEABLES® <i>Viola x wittrockiana</i> <b>Pansy F1 Series</b>	PRM	128 288	4-5	1	Yes	2-3	5.5-5.8 pH 0.75 mmhos/cm	(m) Level 4 (t) 65-70°F (18-21°C) (l) Optional	(m) Level 3-4 (t) 65-70°F (18-21°C) (l) 2,500 f.c. (26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 65-70°F (18-21°C) (l) 2,500 f.c. (26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) daminozide 1,500-2,500 ppm Spray or daminozide/chlormequat chloride tank mix 1,500/250-2,500/500 ppm Spray	(m) Level 2-4 (t) 60-65°F (16-18°C) (l) 5,000 f.c. (53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) daminozide 1,500-2,500 ppm Spray or daminozide/chlormequat chloride tank mix 1,500/250-2,500/500 ppm Spray	Adjust PGR rates and frequency of application depending on local conditions in Stages 3 and 4. Cool Wave varieties do not respond uniformly to ancymidol in plug production, so its use is not recommended. Using 105/128 plugs promotes stronger lateral growth and quicker finish. In general, 288 plug size is not preferable for Fuseables. If chosen, use a younger, actively growing plug that is not rootbound.
FUSEABLES® <i>Petunia x hybrida</i> <b>Petunia Series</b>	PMPL	128 288	5-6	1	No	4	5.5-6.0 pH 0.75 mmhos/cm	(m) Level 5 (t) 72-76°F (22-24°C) (l) Light	(m) Level 4-5 (t) 68-75°F (20-24°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 65-70°F (18-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) daminozide 5,000 ppm Spray	(m) Level 2-4 (t) 60-65°F (16-18°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) daminozide 5,000 ppm Spray	Use the same PGR regime as that for standard or spreading petunia. NOTE: Pleasantly Blue responds better to a B-Nine spray than it does to a Bonzi spray or drench, so the use of B-Nine is preferred for this variety.
FUSEABLES® <i>Petunia hybrida, Sutera cordata</i> <b>Petunia-Bacopa Series</b>	PMPL	128 288	4-5	1	No	4	5.5-6.0 pH 0.75 mmhos/cm	(m) Level 5 (t) 72-76°F (22-24°C) (l) Light	(m) Level 4-5 (t) 68-76°F (20-24°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 65-70°F (18-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) paclobutrazol 2-5 ppm Spray	(m) Level 2-4 (t) 59-64°F (15-18°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Do not use B-Nine/Alar or Topflor for height control, as they will stunt bacopa.
FUSEABLES® <i>Juncus inflexus - Juncus effusus spiralis</i> <b>Twisted Arrows</b>	MPL	128 288	7-9	1	No	7-8	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 71-76°F (22-24°C) (l) Optional	(m) Level 3-4 (t) 68-70°F (20-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 68-70°F (20-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-3 (t) 65-67°F (18-19°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	

CLASS/SERIES	SEED FORM	RECOMMENDED PLUG SIZE	PLUG CROP WEEKS	SEEDS/CELL	COVER SEED	DAYS TO GERMINATE	INITIAL MEDIA PH/EC	STAGE 1	STAGE 2	STAGE 3	STAGE 4	KEY TIPS
FUSEABLES® <i>Juncus tenuis</i> - <i>Juncus effusus spiralis</i> <b>Twisted Dart</b>	MPL	128 288	7-9	1	No	7-8	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 71-76°F (22-24°C) (l) Optional	(m) Level 3-4 (t) 68-70°F (20-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 68-70°F (20-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-3 (t) 65-67°F (18-19°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	
FUSEABLES® <i>Viola cornuta</i> <b>Viola Series</b>	PMPL	128 288	4-5	1	No	3-4	5.4-5.8 pH 0.75 mmhos/cm	(m) Level 5 (t) 65-68°F (18-20°C) (l) Optional	(m) Level 4-5 (t) 65-68°F (18-20°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 65-67°F (18-19°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) ancymidol 3-5 ppm Spray	(m) Level 2-4 (t) 53-60°F (12-16°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	
FUSEABLES® <i>Viola cornuta, Lobularia maritima</i> <b>Viola-Alyssum Series</b>	PMPL	128 288	3-4	1	No	2-4	5.4-5.8 pH 0.75 mmhos/cm	(m) Level 5 (t) 65-68°F (18-20°C) (l) Optional	(m) Level 4-5 (t) 65-68°F (18-20°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 65-67°F (18-19°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) ancymidol 3-5 ppm Spray	(m) Level 2-4 (t) 53-60°F (12-16°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	
GAZANIA <i>Gazania rigens</i> <b>New Day® F<sub>1</sub> Series</b>	COT	288	4-5	1	Yes	3-4	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 70-72°F (21-22°C) (l) Optional	(m) Level 3-4 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 68-70°F (20-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-3 (t) 65-68°F (18-20°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	PGRs are generally not required for producing gazania plugs. Avoid excessive salt accumulation/high EC in the plug media during plug production, as this will cause leaf tip or margin burn.
GAZANIA TETRAPLOID <i>Gazania rigens</i> <b>Sunshine Series</b>	RAW	406	4-5	1	Yes	3-4	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 70-72°F (21-22°C) (l) Optional	(m) Level 3-4 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 68-70°F (20-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-3 (t) 65-68°F (18-20°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	PGRs are generally not required for plug production. Avoid excessive salt accumulation in the plug media during plug production, as this will cause leaf tip or margin burn.
GERANIUM (IVY) <i>Pelargonium x peltatum</i> <b>Summer Showers Series</b>	RAW	288	4-6	1	Yes	3-5	5.8-6.2 pH 0.75-1.0 mmhos/cm	(m) Level 4-5 (t) 70-74°F (21-23°C) (l) Optional	(m) Level 2-4 (t) 68-70°F (20-21°C) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 65-70°F (18-21°C) (l) 10-12 mol·m <sup>-2</sup> ·d <sup>-1</sup> (f) Less than 100 ppm N - Less than 0.7 EC (p) chlormequat chloride 200-300 ppm Spray	(m) Level 2-3 (t) 65-70°F (18-21°C) (l) 12-14 mol·m <sup>-2</sup> ·d <sup>-1</sup> (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) chlormequat chloride 200-300 ppm Spray	
GOMPHRENA <i>Gomphrena pulchella</i> <b>Fireworks</b>	COT	406	5-6	1	Yes	2-3	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 68-75°F (20-24°C) (l) Light	(m) Level 3-4 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 68-72°F (20-22°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-3 (t) 64-68°F (18-20°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	If needed, young plants respond well to daminozide.
HELENIUM <i>Helenium amarum</i> <b>Dakota Gold</b>	MPL	288	3-4	1	Yes	3-5	5.5-6.3 pH 0.75 mmhos/cm	(m) Level 4 (t) 65-75°F (18-24°C) (l) Optional	(m) Level 3-4 (t) 68-72°F (20-22°C) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 68-72°F (20-22°C) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-3 (t) 68-72°F (20-22°C) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Daylength affects plant growing habit and crop time. See GrowerFacts for details.
HELICHRYSUM <i>Helichrysum microphyllum</i> ( <i>Plectostachys serphyllifolia</i> ) <b>Silver Mist</b>	MPL	288	6-7	1	No	6-8	5.5-6.3 pH 0.75 mmhos/cm	(m) Level 4 (t) 72-76°F (22-24°C) (l) Optional	(m) Level 3-4 (t) 65-72°F (18-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 65-70°F (18-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 3 (t) 62-65°F (17-18°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Do not overwater. Avoid watering plants late in the day, as constant wet foliage may make plants susceptible to Botrytis. Does not require pinching.
HIBISCUS <i>Hibiscus acetosella</i> <b>Mahogany Splendor</b>	RAW	288	2-3	1	Yes	2-3	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 71-76°F (22-24°C) (l) Optional	(m) Level 3-4 (t) 68-73°F (20-23°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-73°F (20-23°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) daminozide/chlormequat chloride tank mix 2,500/300 ppm Spray	(m) Level 3 (t) 65-70°F (18-21°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Light for germination is optional.
IMPATIENS <i>Impatiens walleriana</i> <b>Dazzler® F<sub>1</sub> Series</b>	COT	288	4-5	1	No	3-5	6.0-6.2 pH 0.5-0.75 mmhos/cm	(m) Level 4-5 (t) 72-76°F (22-24°C) (l) Optional	(m) Level 2-4 (t) 70-72°F (21-22°C) (l) 450-700 f.c. (4,800-7,500 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 68-70°F (20-21°C) (l) 450-700 f.c. (4,800-7,500 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 62-65°F (17-18°C) (l) 450-700 f.c. (4,800-7,500 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	Do not cover seed.
IMPATIENS <i>Impatiens walleriana</i> <b>Impreza® F<sub>1</sub> Series</b>	RAW	288	4-5	1	No	3-5	6.0-6.2 pH 0.5-0.75 mmhos/cm	(m) Level 4-5 (t) 72-76°F (22-24°C) (l) Optional	(m) Level 2-4 (t) 70-72°F (21-22°C) (l) 450-700 f.c. (4,800-7,500 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 68-70°F (20-21°C) (l) 450-700 f.c. (4,800-7,500 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 62-65°F (17-18°C) (l) 450-700 f.c. (4,800-7,500 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	Do not cover seed.
IMPATIENS <i>Impatiens walleriana</i> <b>Super Elfin® F<sub>1</sub> Series</b>	RAW	288	4-5	1	No	3-5	6.0-6.2 pH 0.5-0.75 mmhos/cm	(m) Level 4-5 (t) 72-76°F (22-24°C) (l) Optional	(m) Level 2-4 (t) 70-72°F (21-22°C) (l) 450-700 f.c. (4,800-7,500 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 68-70°F (20-21°C) (l) 450-700 f.c. (4,800-7,500 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 62-65°F (17-18°C) (l) 450-700 f.c. (4,800-7,500 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	Do not cover seed.

CLASS/SERIES	SEED FORM	RECOMMENDED PLUG SIZE	PLUG CROP WEEKS	SEEDS/CELL	COVER SEED	DAYS TO GERMINATE	INITIAL MEDIA PH/EC	STAGE 1	STAGE 2	STAGE 3	STAGE 4	KEY TIPS
IMPATIENS <i>Impatiens walleriana</i> <b>Super Elfin® XP F1 Series</b>	RAW	288	4-5	1	No	3-5	6.0-6.2 pH 0.5-0.75 mmhos/cm	(m) Level 4-5 (t) 72-77°F (22-24°C) (l) Optional	(m) Level 2-4 (t) 70-72°F (21-22°C) (l) 450-700 f.c. (4,800-7,500 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 68-70°F (20-21°C) (l) 450-700 f.c. (4,800-7,500 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 62-65°F (17-18°C) (l) 450-700 f.c. (4,800-7,500 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	Do not cover seed.
IMPATIENS (NEW GUINEA) <i>Impatiens hawkeri</i> <b>Divine F1 Series</b>	RAW	288	5-6	1	No	5-8	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 5 (t) 74-77°F (23-25°C) (l) Light (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 70-74°F (21-23°C) (l) 2,500 f.c. (26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC (p) daminozide 1,250 ppm Spray or paclobutrazol 1/2-1 ppm Spray	(m) Level 3-4 (t) 70-74°F (21-23°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) Less than 100 ppm N - Less than 0.7 EC (p) daminozide 1,500-3,500 ppm Spray or paclobutrazol 1/2-1 ppm Spray	(m) Level 3-4 (t) 70-74°F (21-23°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) Less than 100 ppm N - Less than 0.7 EC (p) daminozide 1,500-3,500 ppm Spray or paclobutrazol 1/2-1 ppm Spray	Transplanting: Flowering may be delayed from crowded conditions in a plug tray. Do not allow plugs to get rootbound. Growth Regulator: Negative DIF and DROP work very well for New Guinea Impatiens height control. As necessary, daminozide can be applied as a spray at 1,250 ppm at first true leaf, followed by rates as high as 3,500 ppm if conditions warrant. Paclobutrazol spray at a low rate (0.5 to 1 ppm) is also effective at first true leaf stage.
IREFINE <i>Iresine herbstii</i> <b>Purple Lady</b>	RAW	288	4-5	1	Yes	3-4	5.5-6.3 pH 0.75 mmhos/cm	(m) Level 4 (t) 72-76°F (22-24°C)	(m) Level 3-4 (t) 65-72°F (18-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 65-70°F (18-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 3 (t) 62-65°F (17-18°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Reddish foliage indicates that plants need more feed. High light, especially with low humidity, results in puckered foliage.
ISOTOMA <i>Isotoma hybrida</i> <b>Gemini F1 Series</b>	PEL	288	4-5	2-4	No	5-8	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 68-72°F (20-22°C) (l) Optional	(m) Level 4 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 65-68°F (18-20°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) daminozide 1,000-1,500 ppm Spray	(m) Level 3 (t) 65-68°F (18-20°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Incorporate a preventative fungicide program to avoid damping-off.
ISOTOMA <i>Isotoma axillaris</i> <b>Tristar Series</b>	PEL	288	4-5	2-4	No	5-8	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 68-72°F (20-22°C) (l) Optional	(m) Level 3-4 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 65-68°F (18-20°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) daminozide 1,000-1,500 ppm Spray	(m) Level 3 (t) 65-68°F (18-20°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Incorporate a preventative fungicide program to avoid damping-off.
JUNCUS <i>Juncus effusus spiralis</i> <b>Twister</b>	MPL	288	7-8	1	No	10-13	5.5-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 70-78°F (21-26°C) (l) Optional	(m) Level 3-4 (t) 68-70°F (20-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 68-70°F (20-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2 (t) 64-66°F (18-19°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	
LEYCESTERIA <i>Leycesteria formosa</i> <b>Jealousy</b>	MPL	288	7-8	1	Light cover	9-12	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 65-70°F (18-21°C) (l) Light	(m) Level 4 (t) 68-73°F (20-23°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 65-70°F (18-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-4 (t) 65-67°F (18-19°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Requires light to germinate.
LINARIA <i>Linaria hybrida</i> <b>Enchantment F1</b>	MPL	288	4-5	1	Yes	2-3	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 65-68°F (18-20°C) (l) Optional	(m) Level 3-4 (t) 65-72°F (18-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 65-70°F (18-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 3 (t) 62-65°F (17-18°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Stage 1 early PGR application is very important for avoiding leggy/stretchy seedlings.
LISIANTHUS <i>Eustoma grandiflorum</i> <b>Florida F1 Series</b>	PEL	288 512	8 6-7	1 1	No	8-12	6.2-6.5 pH 0.75 mmhos/cm	(m) Level 4 (t) 72-77°F (22-25°C) (l) Light	(m) Level 2-3 (t) 68-72°F (20-22°C) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 1-3 (t) 65-68°F (18-20°C) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 1-3 (t) 62-65°F (17-18°C) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Maintain a 6.5 to 6.8 pH. Do not hold lisianthus plugs until they become rootbound, as basal branching will be inhibited. Rootbound plugs tend to flower shorter and non-uniformly.
LOBELIA <i>Lobelia erinus</i> <b>Cambridge Series</b>	MPL, RAW	288	4-5	1	No	4-5	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 70-72°F (21-22°C) (l) Optional	(m) Level 3-4 (t) 68-74°F (20-23°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 66-72°F (19-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 3 (t) 64-68°F (18-20°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	
LOBELIA <i>Lobelia erinus</i> <b>Cobalt Blue</b>	MPL, RAW	288	4-5	1	No	4-5	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 70-72°F (21-22°C) (l) Optional	(m) Level 3-4 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 66-72°F (19-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 3 (t) 64-68°F (18-20°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	
LOBELIA <i>Lobelia erinus</i> <b>Crystal Palace</b>	MPL, RAW	288	4-5	1	No	4-5	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 70-72°F (21-22°C) (l) Optional	(m) Level 3-4 (t) 68-74°F (20-23°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 66-72°F (19-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 3 (t) 64-68°F (18-20°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	
LOBELIA <i>Lobelia erinus</i> <b>Fountain Series</b>	MPL, RAW	288	4-5	1	No	4-5	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 70-72°F (21-22°C) (l) Optional	(m) Level 3-4 (t) 68-74°F (20-23°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 66-72°F (19-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 3 (t) 64-68°F (18-20°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	
LOBELIA <i>Lobelia erinus</i> <b>Mrs Clibran</b>	MPL, RAW	288	4-5	1	No	4-5	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 70-72°F (21-22°C) (l) Optional	(m) Level 3-4 (t) 68-74°F (20-23°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 66-72°F (19-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 3 (t) 64-68°F (18-20°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	

CLASS/SERIES	SEED FORM	RECOMMENDED PLUG SIZE	PLUG CROP WEEKS	SEEDS/CELL	COVER SEED	DAYS TO GERMINATE	INITIAL MEDIA PH/EC	STAGE 1	STAGE 2	STAGE 3	STAGE 4	KEY TIPS
LOBELIA <i>Lobelia erinus</i> <b>Rapid Series</b>	MPL, RAW	288	4-5	1	No	4-5	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 70-72°F (21-22°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-74°F (20-23°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 66-72°F (19-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 3 (t) 64-68°F (18-20°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	
LOBELIA <i>Lobelia erinus</i> <b>Regatta Series</b>	MPL, RAW	288	4-5	1	No	4-5	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 70-72°F (21-22°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-74°F (20-23°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 66-72°F (19-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 3 (t) 64-68°F (18-20°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	
LOBELIA <i>Lobelia erinus</i> <b>Riviera Series</b>	MPL, RAW	288	4-5	1	No	4-5	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 70-72°F (21-22°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-74°F (20-23°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 66-72°F (19-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 3 (t) 64-68°F (18-20°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	
LOBELIA <i>Lobelia erinus</i> <b>Rosamond</b>	MPL, RAW	288	4-5	1	No	4-5	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 70-72°F (21-22°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-74°F (20-23°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 66-72°F (19-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 3 (t) 64-68°F (18-20°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	
LOBELIA <i>Lobelia erinus</i> <b>Sapphire Pendula</b>	MPL, RAW	288	4-5	1	No	4-5	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 70-72°F (21-22°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-74°F (20-23°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 66-72°F (19-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 3 (t) 64-68°F (18-20°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	
LOBELIA <i>Lobelia erinus</i> <b>String Of Pearls</b>	MPL, RAW	288	4-5	1	No	4-5	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 70-72°F (21-22°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-74°F (20-23°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 66-72°F (19-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 3 (t) 64-68°F (18-20°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	
LOBELIA <i>Lobelia erinus</i> <b>White Lady</b>	MPL, RAW	288	4-5	1	No	4-5	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 70-72°F (21-22°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-74°F (20-23°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 66-72°F (19-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 3 (t) 64-68°F (18-20°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	
MARIGOLD (AFRICAN) <i>Tagetes erecta</i> <b>Lady F<sub>1</sub> Series</b>	DTL	288	3-4	1	Yes	2-3	6.2-6.5 pH 0.75 mmhos/cm	(m) Level 4 (t) 68-72°F (20-22°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-72°F (20-22°C) (l) 2,500 f.c. (26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3 (t) 68-72°F (20-22°C) (l) 2,500 f.c. (26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 3 (t) 65-70°F (18-21°C) (l) 5,000 f.c. (53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Maintain soil pH of 6.2 to 6.5 to avoid iron toxicity. Higher temperatures inhibit germination, shorten crop time and cause stretching. PGRs are not generally required.
MARIGOLD (AFRICAN) <i>Tagetes erecta</i> <b>Marvel F<sub>1</sub> Series</b>	COT, DTL	288	3-4	1	Yes	2-3	6.2-6.5 pH 0.75 mmhos/cm	(m) Level 4 (t) 70-72°F (21-22°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-72°F (20-22°C) (l) 2,500 f.c. (26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3 (t) 68-72°F (20-22°C) (l) 2,500 f.c. (26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 3 (t) 65-70°F (18-21°C) (l) 5,000 f.c. (53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Maintain soil pH of 6.2 to 6.5 to avoid iron toxicity. Higher temperatures inhibit germination, shorten crop time and cause stretching. PGRs are not generally required.
MARIGOLD (AFRICAN) <i>Tagetes erecta</i> <b>Taishan® F<sub>1</sub> Series</b>	COT, DTL	288	3-4	1	Yes	2-3	6.2-6.5 pH 0.75 mmhos/cm	(m) Level 4 (t) 70-72°F (21-22°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-72°F (20-22°C) (l) 2,500 f.c. (26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3 (t) 68-72°F (20-22°C) (l) 2,500 f.c. (26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 3 (t) 65-70°F (18-21°C) (l) 5,000 f.c. (53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Maintain soil pH of 6.2 to 6.5 to avoid iron toxicity. Higher temperatures inhibit germination, shorten crop time and cause stretching. PGRs are not generally required.
MARIGOLD (AFRICAN) <i>Tagetes erecta</i> <b>Vanilla F<sub>1</sub></b>	COT, DTL	288	3-4	1	Yes	2-3	6.2-6.5 pH 0.75 mmhos/cm	(m) Level 4 (t) 70-72°F (21-22°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 65-72°F (18-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3 (t) 65-70°F (18-21°C) (l) 3,000 f.c. (32,300 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3 (t) 65-70°F (18-21°C) (l) 3,000 f.c. (32,300 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Keep soil moisture high until radicle emergence; reduce moisture levels after radicle penetrates the medium. Maintain soil pH of 6.2 to 6.5 to avoid iron toxicity. Higher temperatures inhibit germination, shorten crop time and cause stretching. PGRs are not generally required.
MARIGOLD (FRENCH) <i>Tagetes patula</i> <b>Bonanza Series</b>	COT, DTL	288	3-4	1	Yes	2-3	6.2-6.5 pH 0.75 mmhos/cm	(m) Level 4 (t) 70-72°F (21-22°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-72°F (20-22°C) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3 (t) 68-75°F (20-24°C) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 3 (t) 68-75°F (20-24°C) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Maintain soil pH of 6.2 to 6.5 to avoid iron toxicity.
MARIGOLD (FRENCH) <i>Tagetes patula</i> <b>Durango® Series</b>	COT, DTL	288	3-4	1	Yes	2-3	6.2-6.5 pH 0.75 mmhos/cm	(m) Level 4 (t) 70-72°F (21-22°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-72°F (20-22°C) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3 (t) 68-75°F (20-24°C) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 3 (t) 68-75°F (20-24°C) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Maintain soil pH of 6.2 to 6.5 to avoid iron toxicity.
MARIGOLD (FRENCH) <i>Tagetes patula</i> <b>Fireball</b>	COT, DTL	288	3-4	1	Yes	2-3	6.2-6.5 pH 0.75 mmhos/cm	(m) Level 4 (t) 70-72°F (21-22°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-72°F (20-22°C) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3 (t) 68-75°F (20-24°C) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 3 (t) 68-75°F (20-24°C) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Maintain soil pH of 6.2 to 6.5 to avoid iron toxicity.

CLASS/SERIES	SEED FORM	RECOMMENDED PLUG SIZE	PLUG CROP WEEKS	SEEDS/CELL	COVER SEED	DAYS TO GERMINATE	INITIAL MEDIA PH/EC	STAGE 1	STAGE 2	STAGE 3	STAGE 4	KEY TIPS
MARIGOLD (FRENCH) <i>Tagetes patula</i> <b>Gate Series</b>	DTL, RAW	288	3-4	1	Yes	2-3	6.2-6.5 pH 0.75 mmhos/cm	(m) Level 4 (t) 70-72°F (21-22°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-72°F (20-22°C) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3 (t) 68-75°F (20-24°C) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 3 (t) 68-75°F (20-24°C) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Maintain soil pH of 6.2 to 6.5 to avoid iron toxicity.
MARIGOLD (FRENCH) <i>Tagetes patula</i> <b>Hot Pak Series</b>	COT, DTL	288	3-4	1	Yes	2-3	6.2-6.5 pH 0.75 mmhos/cm	(m) Level 4 (t) 70-72°F (21-22°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-72°F (20-22°C) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3 (t) 68-75°F (20-24°C) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 3 (t) 68-75°F (20-24°C) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Maintain soil pH of 6.2 to 6.5 to avoid iron toxicity.
MARIGOLD (FRENCH) <i>Tagetes patula</i> <b>Janie Series</b>	COT, DTL	288	3-4	1	Yes	2-3	6.2-6.5 pH 0.75 mmhos/cm	(m) Level 4 (t) 70-72°F (21-22°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-72°F (20-22°C) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3 (t) 68-75°F (20-24°C) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 3 (t) 68-75°F (20-24°C) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Maintain soil pH of 6.2 to 6.5 to avoid iron toxicity.
MARIGOLD (FRENCH) <i>Tagetes patula</i> <b>Strawberry Blonde</b>	COT, DTL	288	3-4	1	Yes	2-3	6.2-6.5 pH 0.75 mmhos/cm	(m) Level 4 (t) 70-72°F (21-22°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-72°F (20-22°C) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3 (t) 68-75°F (20-24°C) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 3 (t) 68-75°F (20-24°C) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Maintain soil pH of 6.2 to 6.5 to avoid iron toxicity.
MATTHIOLA <i>Matthiola incana</i> <b>Hot Cakes Series</b>	RAW	288	4-5	1	Yes	3-4	5.5-6.0 pH 0.75 mmhos/cm	(m) Level 4 (t) 68-72°F (20-22°C) (l) Optional	(m) Level 3-4 (t) 60-70°F (16-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 60-65°F (16-18°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 3 (t) 55-60°F (13-16°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Seedlings of double-flowering plants can be selected during plug production based on cotyledon leaf colour (double: pale green; yellow and singles: darker green). Once cotyledons have fully expanded (approximately 11 to 12 days from sowing), seedlings can be moved into a cold chamber/storage set at 40 to 45°F (4 to 7°C) for a period of approximately 3 to 4 days. Hold them in the chamber for a maximum of 4 days, after which they can be grown at cool temperatures (50 to 60°F/10 to 15°C) in a greenhouse until selection. It is possible to differentiate the seedlings starting after they come out of the cold chamber.
NEMESIA <i>Nemesia foetans</i> <b>Poetry F<sub>1</sub> Series</b>	PEL	288	4	4	Yes	4-5	5.5-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 65-70°F (18-21°C) (l) Optional	(m) Level 3-4 (t) 68-72°F (20-22°C) (l) 2,500 f.c. (26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 68-72°F (20-22°C) (l) 2,500 f.c. (26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) daminozide 1,500-2,500 ppm Spray	(m) Level 2-3 (t) 65-68°F (18-20°C) (l) 5,000 f.c. (53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	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.
NEMESIA <i>Nemesia strumosa</i> <b>Sundrops Mixture</b>	RAW	288	4	1	No	3-5	5.5-6.2 pH 0.75 mmhos/cm	(t) 68-70°F (20-21°C) (l) Optional				Grow cool, with an optimum temperature of 55°F (13°C).
NICOTIANA <i>Nicotiana alata</i> <b>Nicki Series</b>	RAW	288	4-5	1	No	3-5	5.5-5.8 pH 0.75 mmhos/cm	(m) Level 4 (t) 72-75°F (22-24°C) (l) Light	(m) Level 4-2 (t) 68-72°F (20-22°C) (l) 1,500 f.c. (16,100 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 4-2 (t) 68-72°F (20-22°C) (l) 2,000-3,000 f.c. (21,500-32,300 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 3 (t) 62-65°F (17-18°C) (l) 3,000 f.c. (32,300 Lux) (f) 175 to 225 ppm N - 1.2 to 1.5 EC	
ORNAMENTAL CORN <i>Zea mays</i> <b>Pink Zebra</b>	RAW	72 128	2-3 1-2	1-2 1-2	Heavy cover	2-3	5.5-6.3 pH 0.75 mmhos/cm	(m) Level 4-5 (t) 72-78°F (22-26°C) (l) Optional	(m) Level 3-4 (t) 68-72°F (20-22°C) (l) 2,500 f.c. (26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 68-72°F (20-22°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-3 (t) 68-72°F (20-22°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Plugs allowed to become rootbound or stressed by drought or nutrient deficiency will delay foliage stripe color appearance after transplant. Seed may also be direct sown to the final container at 2 seeds per cell, reducing total crop time by 2 weeks.
ORNAMENTAL MILLET <i>Pennisetum glaucum</i> <b>Copper Prince F<sub>1</sub></b>	RAW	128	2-3	2-3	Yes	2-3	5.5-6.3 pH 0.75 mmhos/cm	(m) Level 4-5 (t) 72-78°F (22-26°C) (l) Optional	(m) Level 3-4 (t) 68-72°F (20-22°C) (l) 2,500 f.c. (26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 68-72°F (20-22°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-3 (t) 68-72°F (20-22°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Plugs allowed to become rootbound or stressed by drought or nutrient deficiency will not perform well after transplant. Use PGRs only if necessary to tone plugs. Seed may also be direct sown to the final container, reducing total crop time by 2 weeks. See GrowerFacts for details.

CLASS/SERIES	SEED FORM	RECOMMENDED PLUG SIZE	PLUG CROP WEEKS	SEEDS/CELL	COVER SEED	DAYS TO GERMINATE	INITIAL MEDIA PH/EC	STAGE 1	STAGE 2	STAGE 3	STAGE 4	KEY TIPS
ORNAMENTAL MILLET <i>Pennisetum glaucum</i> <b>Jade Princess F<sub>1</sub></b>	RAW	128	2-3	2-3	Yes	2-3	5.5-6.3 pH 0.75 mmhos/cm	(m) Level 4-5 (t) 72-78°F (22-26°C) (l) Optional	(m) Level 3-4 (t) 68-72°F (20-22°C) (l) 2,500-5,000 f.c. (26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 68-72°F (20-22°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-3 (t) 68-72°F (20-22°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Jade Princess is cold sensitive. Plugs allowed to become rootbound or stressed by drought or nutrient deficiency will not perform well after transplant. Use PGRs only if necessary to tone plugs. Seed may also be direct sown to the final container, reducing total crop time by 2 weeks. Keep Jade Princess above 60°F (16°C). See GrowerFacts for details.
ORNAMENTAL MILLET <i>Pennisetum glaucum</i> <b>Jester F<sub>1</sub></b>	RAW	128	2-3	2-3	Yes	2-3	5.5-6.3 pH 0.75 mmhos/cm	(m) Level 4-5 (t) 72-78°F (22-26°C) (l) Optional	(m) Level 3-4 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 68-72°F (20-22°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-3 (t) 62-65°F (17-18°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Plants that are rootbound or stressed due to drought or nutrient deficiency will not perform well after transplant. Seed may also be direct sown to the final container, reducing total crop time by 2 weeks. See GrowerFacts for details.
ORNAMENTAL MILLET <i>Pennisetum glaucum</i> <b>Purple Baron F<sub>1</sub></b>	RAW	128	2-3	2-3	Yes	2-3	5.5-6.3 pH 0.75 mmhos/cm	(m) Level 4-5 (t) 72-78°F (22-26°C) (l) Optional	(m) Level 3-4 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 68-72°F (20-22°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-3 (t) 62-65°F (17-18°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Plants that are rootbound or stressed due to drought or nutrient deficiency will not perform well after transplant. Seed may also be direct sown to the final container, reducing total crop time by 2 weeks. See GrowerFacts for details.
ORNAMENTAL MILLET <i>Pennisetum glaucum</i> <b>Purple Majesty</b>	RAW	128	2-3	2-3	Yes	2-3	5.5-6.3 pH 0.75 mmhos/cm	(m) Level 4-5 (t) 72-78°F (22-26°C) (l) Optional	(m) Level 3-4 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 68-72°F (20-22°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-3 (t) 62-65°F (17-18°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Plants that are rootbound or stressed due to drought or nutrient deficiency will not perform well after transplant. Seed may also be direct sown to the final container, reducing total crop time by 2 weeks. See GrowerFacts for details.
ORNAMENTAL MINT <i>Mentha requienii</i> <b>Mini Mint</b>	MPL	288	4-5	1	Yes	5-7	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 65-70°F (18-21°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 65-68°F (18-20°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 65-68°F (18-20°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 65-68°F (18-20°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	Maintain constant media moisture, avoiding excessive wet or dry.
ORNAMENTAL OREGANO <i>Origanum x hybrida</i> <b>Kirigami</b>	RAW	288	5-6	4	No	4-5	5.8-6.5 pH 0.75 mmhos/cm	(m) Level 4 (t) 68-72°F (20-22°C) (l) Light (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3 (t) 65-68°F (18-20°C) (l) 2,000-2,500 f.c. (21,500-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-2 (t) 65-68°F (18-20°C) (l) 2,000-2,500 f.c. (21,500-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) daminozide 1,000-1,500 ppm Spray	(m) Level 2 (t) 60-65°F (16-18°C) (l) 3,500-5,000 f.c. (37,700-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) daminozide 1,000-1,500 ppm Spray	Do not plant plug too deep, same level as medium. Provide an active growing climate and avoid growing wet. Grow on dry side.
ORNAMENTAL PEPPER <i>Capsicum annuum</i> <b>Black Pearl</b>	RAW	288	4-5	1	Light cover	5-7	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 72-76°F (22-24°C) (l) Optional	(m) Level 3-4 (t) 68-73°F (20-23°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) uniconazole 2.5 ppm Spray	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Performs best under high light and warm temperatures. If necessary, uniconazole (Sumagic) at rate of 2.5 ppm can be applied at 2 weeks after sowing for height control. Repeat 2 weeks later if needed.
ORNAMENTAL PEPPER <i>Capsicum annuum</i> <b>Calico F<sub>1</sub></b>	RAW	288	4-5	1	Light cover	5-7	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 72-76°F (22-24°C) (l) Optional	(m) Level 3-4 (t) 68-73°F (20-23°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) uniconazole 2.5 ppm Spray	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Performs best under high light and warm temperatures. If necessary, uniconazole (Sumagic) at rate of 2.5 ppm can be applied at 2 weeks after sowing for height control. Repeat 2 weeks later if needed.
ORNAMENTAL PEPPER <i>Capsicum annuum</i> <b>Midnight Fire</b>	RAW	288	4-5	1	Light cover	5-7	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 72-76°F (22-24°C) (l) Optional	(m) Level 3-4 (t) 68-73°F (20-23°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) uniconazole 2.5 ppm Spray	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Performs best under high light and warm temperatures. If necessary, uniconazole (Sumagic) at rate of 2.5 ppm can be applied at 2 weeks after sowing for height control. Repeat 2 weeks later if needed.
ORNAMENTAL PEPPER <i>Capsicum annuum</i> <b>Purple Flash</b>	RAW	288	4-5	1	Light cover	5-7	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 72-76°F (22-24°C) (l) Optional	(m) Level 3-4 (t) 68-73°F (20-23°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) uniconazole 2.5 ppm Spray	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Performs best under high light and warm temperatures. If necessary, uniconazole (Sumagic) at rate of 2.5 ppm can be applied at 2 weeks after sowing for height control. Repeat 2 weeks later if needed.
ORNAMENTAL PEPPER <i>Capsicum annuum</i> <b>Sangria F<sub>1</sub></b>	RAW	288	4-5	1	Light cover	5-7	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 72-76°F (22-24°C) (l) Optional	(m) Level 3-4 (t) 68-73°F (20-23°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) uniconazole 2.5 ppm Spray	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Performs best under high light and warm temperatures. If necessary, uniconazole (Sumagic) at rate of 2.5 ppm can be applied at 2 weeks after sowing for height control. Repeat 2 weeks later if needed.
ORNAMENTAL PEPPER <i>Capsicum annuum</i> <b>Sedona Sun</b>	RAW	288	4-5	1	Light cover	5-7	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 72-76°F (22-24°C) (l) Optional	(m) Level 3-4 (t) 68-73°F (20-23°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Performs best under high light and warm temperatures. If necessary, uniconazole (Sumagic) at rate of 2.5 ppm can be applied at 2 weeks after sowing for height control.



CLASS/SERIES	SEED FORM	RECOMMENDED PLUG SIZE	PLUG CROP WEEKS	SEEDS/ CELL	COVER SEED	DAYS TO GERMINATE	INITIAL MEDIA PH/EC	STAGE 1	STAGE 2	STAGE 3	STAGE 4	KEY TIPS
OSTEOSPERMUM <i>Osteospermum ecklonis</i> <b>Akila® F<sub>1</sub> Series</b>	RAW	288 105	4-5 5	1 1	Yes	5-6	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 65-68°F (18-20°C) (l) Optional	(m) Level 3-4 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 68-70°F (20-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) daminozide 2,500-3,000 ppm Spray	(m) Level 2-3 (t) 65-68°F (18-20°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Using a larger liner such as a 105 at 1 spc will promote more branching and help reduce total crop time. PGRs are generally not needed. If necessary, a daminozide 2,500 ppm spray applied 3 weeks after sowing will tone plugs.
PANSY <i>Viola x wittrockiana</i> <b>Fizzy F<sub>1</sub> Series</b>	PRM, RAW	288	5	1	Yes	3-4	5.5-5.8 pH 0.75 mmhos/cm	(m) Level 4 (t) 65-70°F (18-21°C) (l) Optional	(m) Level 3-4 (t) 60-65°F (16-18°C) (l) 2,500 f.c. (26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 60-65°F (16-18°C) (l) 2,500 f.c. (26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) ancymidol 5-10 ppm Spray or daminozide 1,500-2,500 ppm Spray	(m) Level 2-4 (t) 55-60°F (13-16°C) (l) 5,000 f.c. (53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) ancymidol 5-10 ppm Spray or daminozide 1,500-2,500 ppm Spray	Adjust PGR rates and frequency of application depending on local conditions in Stages 3 and 4.
PANSY <i>Viola x wittrockiana</i> <b>Frizzle Sizzle F<sub>1</sub> Series</b>	PRM, RAW	288	5	1	Yes	3-4	5.5-5.8 pH 0.75 mmhos/cm	(m) Level 4 (t) 65-70°F (18-21°C) (l) Optional	(m) Level 3-4 (t) 60-65°F (16-18°C) (l) 2,500 f.c. (26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 60-65°F (16-18°C) (l) 2,500 f.c. (26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) ancymidol 5-10 ppm Spray or daminozide 1,500-2,500 ppm Spray	(m) Level 2-4 (t) 55-60°F (13-16°C) (l) 5,000 f.c. (53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) ancymidol 5-10 ppm Spray or daminozide 1,500-2,500 ppm Spray	Adjust PGR rates and frequency of application depending on local conditions in Stages 3 and 4.
PANSY <i>Viola x wittrockiana</i> <b>Halloween Improved F<sub>1</sub></b>	PRM, RAW	288	5	1	Yes	3-4	5.5-5.8 pH 0.75 mmhos/cm	(m) Level 4 (t) 65-70°F (18-21°C)	(m) Level 3-4 (t) 60-65°F (16-18°C) (l) 2,500 f.c. (26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 60-65°F (16-18°C) (l) 2,500 f.c. (26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) ancymidol 5-10 ppm Spray or daminozide 1,500-2,500 ppm Spray	(m) Level 2-4 (t) 55-60°F (13-16°C) (l) 5,000 f.c. (53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) ancymidol 5-10 ppm Spray or daminozide 1,500-2,500 ppm Spray	Adjust PGR rates and frequency of application depending on local conditions in Stages 3 and 4. Northwestern Europe: Can use 1 to 2 applications of B-Nine/Alar (daminozide) at 1,280 ppm (1.5 g/l of 85% formulation or 2 g/l of 64% formulation).
PANSY <i>Viola x wittrockiana</i> <b>Matrix® F<sub>1</sub> Series</b>	PRM, RAW	288	5	1	Yes	3-4	5.5-5.8 pH 0.75 mmhos/cm	(m) Level 4 (t) 65-70°F (18-21°C)	(m) Level 3-4 (t) 60-65°F (16-18°C) (l) 2,500 f.c. (26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 60-65°F (16-18°C) (l) 2,500 f.c. (26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) ancymidol 5-10 ppm Spray or daminozide 1,500-2,500 ppm Spray	(m) Level 2-4 (t) 55-60°F (13-16°C) (l) 5,000 f.c. (53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) ancymidol 5-10 ppm Spray or daminozide 1,500-2,500 ppm Spray	Adjust PGR rates and frequency of application depending on local conditions in Stages 3 and 4. Northwestern Europe: Can use 1 to 2 applications of B-Nine/Alar (daminozide) at 1,280 ppm (1.5 g/l of 85% formulation or 2 g/l of 64% formulation).
PANSY <i>Viola x wittrockiana</i> <b>Panola® F<sub>1</sub> Series</b>	PRM, RAW	288	5	1	Yes	3-4	5.5-5.8 pH 0.75 mmhos/cm	(m) Level 4 (t) 65-70°F (18-21°C) (l) Optional	(m) Level 3-4 (t) 60-65°F (16-18°C) (l) 2,500 f.c. (26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 60-65°F (16-18°C) (l) 2,500 f.c. (26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) ancymidol 5-10 ppm Spray or daminozide 1,500-2,500 ppm Spray	(m) Level 2-4 (t) 55-60°F (13-16°C) (l) 5,000 f.c. (53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) ancymidol 5-10 ppm Spray or daminozide 1,500-2,500 ppm Spray	Adjust PGR rates and frequency of application depending on local conditions in Stages 3 and 4.
PANSY <i>Viola x wittrockiana</i> <b>Panola® XP F<sub>1</sub> Series</b>	PRM, RAW	288	5	1	Yes	3-4	5.5-5.8 pH 0.75 mmhos/cm	(m) Level 4 (t) 65-70°F (18-21°C) (l) Optional	(m) Level 3-4 (t) 60-65°F (16-18°C) (l) 2,500 f.c. (26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 60-65°F (16-18°C) (l) 2,500 f.c. (26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) ancymidol 5-10 ppm Spray or daminozide 1,500-2,500 ppm Spray	(m) Level 2-4 (t) 55-60°F (13-16°C) (l) 5,000 f.c. (53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) ancymidol 5-10 ppm Spray or daminozide 1,500-2,500 ppm Spray	Adjust PGR rates and frequency of application depending on local conditions in Stages 3 and 4.
PANSY <i>Viola x wittrockiana</i> <b>Promise® F<sub>1</sub> Series</b>	PRM, RAW	288	5	1	Yes	3-4	5.5-5.8 pH 0.75 mmhos/cm	(m) Level 4 (t) 65-70°F (18-21°C) (l) Optional	(m) Level 3-4 (t) 60-65°F (16-18°C) (l) 2,500 f.c. (26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 60-65°F (16-18°C) (l) 2,500 f.c. (26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) ancymidol 5-10 ppm Spray or daminozide 1,500-2,500 ppm Spray	(m) Level 2-4 (t) 55-60°F (13-16°C) (l) 5,000 f.c. (53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) ancymidol 5-10 ppm Spray or daminozide 1,500-2,500 ppm Spray	Adjust PGR rates and frequency of application depending on local conditions in Stages 3 and 4.
PANSY <i>Viola x wittrockiana</i> <b>Spring Matrix F<sub>1</sub> Series</b>	PRM, RAW	288	5	1	Yes	3-4	5.5-5.8 pH 0.75 mmhos/cm	(m) Level 4 (t) 65-70°F (18-21°C) (l) Optional	(m) Level 3-4 (t) 60-65°F (16-18°C) (l) 2,500 f.c. (26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 60-65°F (16-18°C) (l) 2,500 f.c. (26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) ancymidol 5-10 ppm Spray or daminozide 1,500-2,500 ppm Spray	(m) Level 2-4 (t) 55-60°F (13-16°C) (l) 5,000 f.c. (53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) ancymidol 5-10 ppm Spray or daminozide 1,500-2,500 ppm Spray	Adjust PGR rates and frequency of application depending on local conditions in Stages 3 and 4.
PANSY (SPREADING) <i>Viola x wittrockiana</i> <b>Cool Wave® F<sub>1</sub> Series</b>	PRM	288	4-5	1	Yes	2-3	5.5-5.8 pH 0.75 mmhos/cm	(m) Level 4 (t) 65-70°F (18-21°C) (l) Optional	(m) Level 3-4 (t) 65-70°F (18-21°C) (l) 2,500 f.c. (26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 65-70°F (18-21°C) (l) 2,500 f.c. (26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) daminozide 1,500-2,500 ppm Spray or daminozide/chlormequat chloride tank mix 1,500/250-2,500/500 ppm Spray	(m) Level 2-4 (t) 60-65°F (16-18°C) (l) 5,000 f.c. (53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) daminozide/chlormequat chloride tank mix 1,500/250-2,500/500 ppm Spray	Adjust PGR rates and frequency of application depending on local conditions in Stages 3 and 4. Cool Wave varieties do not respond uniformly to ancymidol in plug production, so its use is not recommended. Using 105/128 plugs promotes stronger lateral growth and quicker finish. If using a 288, transplant a younger, actively growing plug that is not rootbound.

CLASS/SERIES	SEED FORM	RECOMMENDED PLUG SIZE	PLUG CROP WEEKS	SEEDS/CELL	COVER SEED	DAYS TO GERMINATE	INITIAL MEDIA PH/EC	STAGE 1	STAGE 2	STAGE 3	STAGE 4	KEY TIPS
PENTAS <i>Pentas lanceolata</i> <b>Butterfly F<sub>1</sub> Series</b>	PEL	288	6-8	1	No	6-9	6.5-6.8 pH 0.75 mmhos/cm	(m) Level 4-5 (t) 75°F (24°C) (l) Light (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 4 (t) 75°F (24°C) (l) 1,500-2,000 f.c. (16,100-21,500 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 65-68°F (18-20°C) (l) 2,500 f.c. (26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC (p) daminozide 2,500 ppm Spray or paclobutrazol 5 ppm Spray	(m) Level 2-4 (t) 60-65°F (16-18°C) (l) 3,500-5,000 f.c. (37,700-53,800 Lux) (f) Less than 100 ppm N - Less than 0.7 EC (p) daminozide 2,500 ppm Spray or paclobutrazol 5 ppm Spray	Pentas have the ability to naturally lower the media pH. High iron levels or pH below 6.0 can cause marginal burn and yellowing on older or lower leaves. Raise pH by adding limestone. Extremely low pH can induce iron and manganese toxicity (brown or tan lesions on the foliage); use a base-forming fertilizer, such as 15-0-15. If symptoms do not improve, or if the pH is below 6.0, irrigate the crop with a hydrated lime solution; rinse foliage after application to avoid phytotoxicity. Calcium and Magnesium deficiency: If pH falls below recommended target values, lower leaf interveinal chlorosis and foliar puckering can develop. Use fertilizers that contain magnesium during early crop development. Supplement with calcium nitrate to adjust pH. Avoid wide fluctuations in media moisture levels. PGR Note: Rates of up to 5,000 ppm daminozide or 10 ppm paclobutrazol have been found to be effective under warmer growing conditions. Temperature differential (DIF) can also be used to minimize height.
PENTAS <i>Pentas lanceolata</i> <b>Glitterati F<sub>1</sub> Series</b>	PEL	288	6-7	1	No	6-9	6.5-6.8 pH 0.75 mmhos/cm	(m) Level 4 (t) 75°F (24°C) (l) Light (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 4 (t) 75°F (24°C) (l) 1,500-2,000 f.c. (16,100-21,500 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 65-68°F (18-20°C) (l) 2,500 f.c. (26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC (p) daminozide 2,500 ppm Spray or paclobutrazol 5 ppm Spray	(m) Level 2-4 (t) 60-65°F (16-18°C) (l) 3,500-5,000 f.c. (37,700-53,800 Lux) (f) Less than 100 ppm N - Less than 0.7 EC (p) daminozide 2,500 ppm Spray or paclobutrazol 5 ppm Spray	Pentas have the ability to naturally lower the media pH. High iron levels or pH below 6.0 can cause marginal burn and yellowing on older or lower leaves. Raise pH by adding limestone. Extremely low pH can induce iron and manganese toxicity (brown or tan lesions on the foliage); use a base-forming fertilizer, such as 15-0-15. If symptoms do not improve, or if the pH is below 6.0, irrigate the crop with a hydrated lime solution; rinse foliage after application to avoid phytotoxicity. Calcium and Magnesium deficiency: If pH falls below recommended target values, lower leaf interveinal chlorosis and foliar puckering can develop. Use fertilizers that contain magnesium during early crop development. Supplement with calcium nitrate to adjust pH. Avoid wide fluctuations in media moisture levels. PGR Note: Rates of up to 5,000 ppm daminozide or 10 ppm paclobutrazol have been found to be effective under warmer growing conditions. Temperature differential (DIF) can also be used to minimize height.
PENTAS <i>Pentas lanceolata</i> <b>Lucky Star F<sub>1</sub> Series</b>	PEL	288	6-7	1	No	6-9	6.4-6.6 pH 0.75 mmhos/cm	(m) Level 4-5 (t) 75°F (24°C) (l) Light (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 75°F (24°C) (l) 4-6 mol·m <sup>-2</sup> ·d <sup>-1</sup> , 1,500-2,000 f.c. (16,100-21,500 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 68-75°F (20-24°C) (l) 6-8 mol·m <sup>-2</sup> ·d <sup>-1</sup> , 2,500 f.c. (26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC (p) daminozide 2,500 ppm Spray or paclobutrazol 5 ppm Spray	(m) Level 2-4 (t) 65-70°F (18-21°C) (l) 10-12 mol·m <sup>-2</sup> ·d <sup>-1</sup> , 3,500-5,000 f.c. (37,700-53,800 Lux) (f) Less than 100 ppm N - Less than 0.7 EC (p) daminozide 2,500 ppm Spray or paclobutrazol 5 ppm Spray	Pentas have the ability to naturally lower the media pH. High iron levels or pH below 6.0 can cause marginal burn and yellowing on older or lower leaves. Raise pH by adding limestone. Extremely low pH can induce iron and manganese toxicity (brown or tan lesions on the foliage); use a base-forming fertilizer, such as 15-0-15. If symptoms do not improve, or if the pH is below 6.0, irrigate the crop with a hydrated lime solution; rinse foliage after application to avoid phytotoxicity. Calcium and Magnesium deficiency: If pH falls below recommended target values, lower leaf interveinal chlorosis and foliar puckering can develop. Use fertilizers that contain magnesium during early crop development. Supplement with calcium nitrate to adjust pH. Avoid wide fluctuations in media moisture levels. PGR Note: Rates of up to 5,000 ppm daminozide or 10 ppm paclobutrazol have been found to be effective under warmer growing conditions. Temperature differential (DIF) can also be used to minimize height.

CLASS/SERIES	SEED FORM	RECOMMENDED PLUG SIZE	PLUG CROP WEEKS	SEEDS/CELL	COVER SEED	DAYS TO GERMINATE	INITIAL MEDIA PH/EC	STAGE 1	STAGE 2	STAGE 3	STAGE 4	KEY TIPS
PETUNIA <i>Petunia x hybrida</i> <b>Carpet F<sub>1</sub> Series</b>	PEL, RAW	288	4-5	1	No	3-5	5.5-5.8 pH 0.75-1.0 mmhos/cm	(m) Level 4-5 (t) 72-76°F (22-24°C) (l) Light	(m) Level 3-4 (t) 68-75°F (20-24°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 65-70°F (18-21°C) (l) 2,500-4,000 f.c. (26,900-43,100 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) daminozide 2,500-5,000 ppm Spray	(m) Level 2-4 (t) 62-65°F (17-18°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) daminozide 2,500-5,000 ppm Spray	
PETUNIA <i>Petunia x hybrida</i> <b>Daddy® F<sub>1</sub> Series</b>	PEL, RAW	288	4-5	1	No	3-5	5.5-5.8 pH 0.75-1.0 mmhos/cm	(m) Level 4-5 (t) 72-76°F (22-24°C) (l) Light	(m) Level 3-4 (t) 68-75°F (20-24°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 65-70°F (18-21°C) (l) 2,500-4,000 f.c. (26,900-43,100 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) daminozide 2,500-5,000 ppm Spray	(m) Level 2-4 (t) 60-65°F (16-18°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) daminozide 2,500-5,000 ppm Spray	
PETUNIA <i>Petunia x hybrida</i> <b>Debonair Collection F<sub>1</sub> Series</b>	PEL, RAW	288	4-5	1	No	3-5	5.5-5.8 pH 0.75-1.0 mmhos/cm	(m) Level 4-5 (t) 72-76°F (22-24°C) (l) Light	(m) Level 3-4 (t) 68-75°F (20-24°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 65-70°F (18-21°C) (l) 2,500-4,000 f.c. (26,900-43,100 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) daminozide 2,500-5,000 ppm Spray	(m) Level 2-4 (t) 60-65°F (16-18°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) daminozide 2,500-5,000 ppm Spray	PGR options include paclobutrazol or flurprimidol.
PETUNIA <i>Petunia x hybrida</i> <b>Dreams F<sub>1</sub> Series</b>	PEL, RAW	288	4-5	1	No	3-5	5.5-5.8 pH 0.75-1.0 mmhos/cm	(m) Level 4-5 (t) 72-76°F (22-24°C) (l) Light	(m) Level 3-4 (t) 68-75°F (20-24°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 65-70°F (18-21°C) (l) 2,500-4,000 f.c. (26,900-43,100 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) daminozide 2,500-5,000 ppm Spray	(m) Level 2-4 (t) 62-65°F (17-18°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) daminozide 2,500-5,000 ppm Spray	
PETUNIA <i>Petunia x hybrida</i> <b>Ez Rider® F<sub>1</sub> Series</b>	PEL, RAW	288	4-5	1	No	3-5	5.5-5.8 pH 0.75-1.0 mmhos/cm	(m) Level 4-5 (t) 72-76°F (22-24°C) (l) Light	(m) Level 3-4 (t) 68-75°F (20-24°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 65-70°F (18-21°C) (l) 2,500-4,000 f.c. (26,900-43,100 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) daminozide 2,500-5,000 ppm Spray	(m) Level 2-4 (t) 62-65°F (17-18°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) daminozide 2,500-5,000 ppm Spray	Genetically compact petunia needs less to no PGR after transplant.
PETUNIA <i>Petunia x hybrida</i> <b>Lo Rider® F<sub>1</sub> Series</b>	PEL, RAW	288	4-5	1	No	3-5	5.5-5.8 pH 0.75-1.0 mmhos/cm	(m) Level 4-5 (t) 72-76°F (22-24°C) (l) Light	(m) Level 3-4 (t) 68-75°F (20-24°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 65-70°F (18-21°C) (l) 2,500-4,000 f.c. (26,900-43,100 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) daminozide 2,500-5,000 ppm Spray	(m) Level 2-4 (t) 62-65°F (17-18°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) daminozide 2,500-5,000 ppm Spray	Genetically compact petunia needs less to no PGR after transplant.
PETUNIA <i>Petunia x hybrida</i> <b>Madness® F<sub>1</sub> Series</b>	PEL, RAW	288	4-5	1	No	3-5	5.5-5.8 pH 0.75-1.0 mmhos/cm	(m) Level 4-5 (t) 72-76°F (22-24°C) (l) Light	(m) Level 3-4 (t) 68-75°F (20-24°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 65-70°F (18-21°C) (l) 2,500-4,000 f.c. (26,900-43,100 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) daminozide 2,500-5,000 ppm Spray	(m) Level 2-4 (t) 62-65°F (17-18°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) daminozide 2,500-5,000 ppm Spray	
PETUNIA <i>Petunia x hybrida</i> <b>Mirage F<sub>1</sub> Series</b>	PEL, RAW	288	4-5	1	No	3-5	5.5-5.8 pH 0.75-1.0 mmhos/cm	(m) Level 4-5 (t) 72-76°F (22-24°C) (l) Light	(m) Level 3-4 (t) 68-75°F (20-24°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 65-70°F (18-21°C) (l) 2,500-4,000 f.c. (26,900-43,100 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) daminozide 2,500-5,000 ppm Spray	(m) Level 2-4 (t) 62-65°F (17-18°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) daminozide 2,500-5,000 ppm Spray	
PETUNIA <i>Petunia x hybrida</i> <b>Pretty Flora F<sub>1</sub> Series</b>	PEL, RAW	288	4-5	1	No	3-5	5.5-5.8 pH 0.75-1.0 mmhos/cm	(m) Level 4-5 (t) 72-76°F (22-24°C) (l) Light	(m) Level 3-4 (t) 68-75°F (20-24°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 65-70°F (18-21°C) (l) 2,500-4,000 f.c. (26,900-43,100 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) daminozide 2,500-5,000 ppm Spray	(m) Level 2-4 (t) 60-65°F (16-18°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) daminozide 2,500-5,000 ppm Spray	Genetically compact petunia needs less to no PGR after transplant.
PETUNIA <i>Petunia x hybrida</i> <b>Pretty Grand F<sub>1</sub> Series</b>	PEL, RAW	288	4-5	1	No	3-5	5.5-5.8 pH 0.75-1.0 mmhos/cm	(m) Level 4-5 (t) 72-76°F (22-24°C) (l) Light	(m) Level 3-4 (t) 68-75°F (20-24°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 65-70°F (18-21°C) (l) 2,500-4,000 f.c. (26,900-43,100 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) daminozide 2,500-5,000 ppm Spray	(m) Level 2-4 (t) 62-65°F (17-18°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) daminozide 2,500-5,000 ppm Spray	Genetically compact petunia needs less to no PGR after transplant.
PETUNIA <i>Petunia x hybrida</i> <b>Sophistica Collection F<sub>1</sub> Series</b>	PEL, RAW	288	4-5	1	No	3-5	5.5-5.8 pH 0.75-1.0 mmhos/cm	(m) Level 4-5 (t) 72-76°F (22-24°C) (l) Light	(m) Level 3-4 (t) 68-75°F (20-24°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 65-70°F (18-21°C) (l) 2,500-4,000 f.c. (26,900-43,100 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) daminozide 2,500-5,000 ppm Spray	(m) Level 2-4 (t) 62-65°F (17-18°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) daminozide 2,500-5,000 ppm Spray	PGR options include paclobutrazol or flurprimidol.
PETUNIA <i>Petunia x hybrida</i> <b>Supercascade F<sub>1</sub> Series</b>	PEL, RAW	288	4-5	1	No	3-5	5.5-5.8 pH 0.75-1.0 mmhos/cm	(m) Level 4-5 (t) 72-76°F (22-24°C) (l) Light	(m) Level 3-4 (t) 68-75°F (20-24°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 65-70°F (18-21°C) (l) 2,500-4,000 f.c. (26,900-43,100 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) daminozide 2,500-5,000 ppm Spray	(m) Level 2-4 (t) 62-65°F (17-18°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) daminozide 2,500-5,000 ppm Spray	
PETUNIA (DOUBLE) <i>Petunia x hybrida</i> <b>Bonanza F<sub>1</sub> Series</b>	PEL, RAW	288	4-5	1	No	3-5	5.5-5.8 pH 0.75 mmhos/cm	(m) Level 4 (t) 75-78°F (24-26°C) (l) Light (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-75°F (20-24°C) (l) 450-700 f.c. (4,800-7,500 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 65-70°F (18-21°C) (l) 450-700 f.c. (4,800-7,500 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-4 (t) 60-62°F (16-17°C) (l) 450-700 f.c. (4,800-7,500 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Germination on some varieties may be improved by a 25 to 50 ppm N application of potassium nitrate after sowing.

CLASS/SERIES	SEED FORM	RECOMMENDED PLUG SIZE	PLUG CROP WEEKS	SEEDS/CELL	COVER SEED	DAYS TO GERMINATE	INITIAL MEDIA PH/EC	STAGE 1	STAGE 2	STAGE 3	STAGE 4	KEY TIPS
PETUNIA (DOUBLE) <i>Petunia x hybrida</i> <b>Double Cascade F<sub>1</sub> Series</b>	PEL, RAW	288	4-5	1	No	3-5	5.5-5.8 pH 0.75 mmhos/cm	(m) Level 4 (t) 72-76°F (22-24°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-75°F (20-24°C) (l) 450-700 f.c. (4,800-7,500 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 65-70°F (18-21°C) (l) 450-700 f.c. (4,800-7,500 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-4 (t) 60-62°F (16-17°C) (l) 450-700 f.c. (4,800-7,500 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Germination on some varieties may be improved by a 25 to 50 ppm N application of potassium nitrate after sowing.
PETUNIA (DOUBLE) <i>Petunia x hybrida</i> <b>Double Madness® F<sub>1</sub> Series</b>	PEL, RAW	288	4-5	1	No	3-5	5.5-5.8 pH 0.75 mmhos/cm	(m) Level 4 (t) 75-78°F (24-26°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-75°F (20-24°C) (l) 450-700 f.c. (4,800-7,500 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 65-70°F (18-21°C) (l) 450-700 f.c. (4,800-7,500 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-4 (t) 60-62°F (16-17°C) (l) 450-700 f.c. (4,800-7,500 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Germination on some varieties may be improved by a 25 to 50 ppm N application of potassium nitrate after sowing.
PETUNIA (DOUBLE) <i>Petunia x hybrida</i> <b>Duo F<sub>1</sub> Series</b>	PEL, RAW	288	4-5	1	No	3-5	5.5-5.8 pH 0.75 mmhos/cm	(m) Level 4 (t) 72-76°F (22-24°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-75°F (20-24°C) (l) 450-700 f.c. (4,800-7,500 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 450-700 f.c. (4,800-7,500 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-4 (t) 60-62°F (16-17°C) (l) 450-700 f.c. (4,800-7,500 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Germination on some varieties may be improved by a 25 to 50 ppm N application of potassium nitrate after sowing.
PETUNIA (DOUBLE) <i>Petunia x hybrida</i> <b>Glorious F<sub>1</sub> Series</b>	PEL, RAW	288	4-5	1	No	3-5	5.5-5.8 pH 0.75 mmhos/cm	(m) Level 4 (t) 72-76°F (22-24°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-75°F (20-24°C) (l) 450-700 f.c. (4,800-7,500 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 65-70°F (18-21°C) (l) 450-700 f.c. (4,800-7,500 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-4 (t) 60-62°F (16-17°C) (l) 450-700 f.c. (4,800-7,500 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Germination on some varieties may be improved by a 25 to 50 ppm N application of potassium nitrate after sowing.
PETUNIA (DOUBLE) <i>Petunia x hybrida</i> <b>Pirouette F<sub>1</sub> Series</b>	PEL, RAW	288	4-5	1	No	3-5	5.5-5.8 pH 0.75 mmhos/cm	(m) Level 4 (t) 72-76°F (22-24°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-75°F (20-24°C) (l) 450-700 f.c. (4,800-7,500 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 65-70°F (18-21°C) (l) 450-700 f.c. (4,800-7,500 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-4 (t) 60-62°F (16-17°C) (l) 450-700 f.c. (4,800-7,500 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Germination on some varieties may be improved by a 25 to 50 ppm N application of potassium nitrate after sowing.
PETUNIA (DOUBLE) <i>Petunia x hybrida</i> <b>Valentine F<sub>1</sub></b>	PEL, RAW	288	4-5	1	No	3-5	5.5-5.8 pH 0.75 mmhos/cm	(m) Level 4 (t) 72-76°F (22-24°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-75°F (20-24°C) (l) 450-700 f.c. (4,800-7,500 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 65-70°F (18-21°C) (l) 450-700 f.c. (4,800-7,500 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-4 (t) 60-62°F (16-17°C) (l) 450-700 f.c. (4,800-7,500 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Germination on some varieties may be improved by a 25 to 50 ppm N application of potassium nitrate after sowing.
PETUNIA (SPREADING) <i>Petunia x hybrida</i> <b>Combo Blue F<sub>1</sub></b>	PEL	288 128	4-6 5-7	1 1	No	3-5	5.5-6.0 pH 0.75 mmhos/cm	(m) Level 4-5 (t) 72-75°F (22-24°C) (l) Optional	(m) Level 3-4 (t) 68-75°F (20-24°C) (l) 6 mol-m <sup>-2</sup> -d <sup>-1</sup> , 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 65-70°F (18-21°C) (l) 10-12 mol-m <sup>-2</sup> -d <sup>-1</sup> , 2,500-4,000 f.c. (26,900-43,100 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) daminozide 2,500-5,000 ppm Spray	(m) Level 2-4 (t) 60-65°F (16-18°C) (l) 8-15 mol-m <sup>-2</sup> -d <sup>-1</sup> , 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) daminozide 2,500-5,000 ppm Spray	
PETUNIA (SPREADING) <i>Petunia x hybrida</i> <b>Easy Wave® F<sub>1</sub> Series</b>	PEL	288 128	4-6 5-7	1 1	No	3-5	5.5-6.0 pH 0.75 mmhos/cm	(m) Level 4-5 (t) 72-75°F (22-24°C) (l) Optional	(m) Level 3-4 (t) 68-75°F (20-24°C) (l) 6 mol-m <sup>-2</sup> -d <sup>-1</sup> , 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 65-70°F (18-21°C) (l) 8-12 mol-m <sup>-2</sup> -d <sup>-1</sup> , 2,500-4,000 f.c. (26,900-43,100 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) daminozide 2,500-5,000 ppm Spray	(m) Level 2-4 (t) 60-65°F (16-18°C) (l) 8-15 mol-m <sup>-2</sup> -d <sup>-1</sup> , 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) daminozide 2,500-5,000 ppm Spray	
PETUNIA (SPREADING) <i>Petunia x hybrida</i> <b>Shock Wave® F<sub>1</sub> Series</b>	PEL	288 128	4-6 5-7	1 1	No	3-5	5.5-6.0 pH 0.75 mmhos/cm	(m) Level 4-5 (t) 72-75°F (22-24°C) (l) Optional	(m) Level 3-4 (t) 68-75°F (20-24°C) (l) 6 mol-m <sup>-2</sup> -d <sup>-1</sup> , 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 65-70°F (18-21°C) (l) 8-12 mol-m <sup>-2</sup> -d <sup>-1</sup> , 2,500-4,000 f.c. (26,900-43,100 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) daminozide 2,500-5,000 ppm Spray	(m) Level 2-4 (t) 60-65°F (16-18°C) (l) 8-15 mol-m <sup>-2</sup> -d <sup>-1</sup> , 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) daminozide 2,500-5,000 ppm Spray	
PETUNIA (SPREADING) <i>Petunia x hybrida</i> <b>Tidal Wave® F<sub>1</sub> Series</b>	PEL	288 128	4-6 5-7	1 1	No	3-5	5.5-6.0 pH 0.75 mmhos/cm	(m) Level 4-5 (t) 72-75°F (22-24°C) (l) Optional	(m) Level 3-4 (t) 68-75°F (20-24°C) (l) 6 mol-m <sup>-2</sup> -d <sup>-1</sup> , 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 65-70°F (18-21°C) (l) 8-12 mol-m <sup>-2</sup> -d <sup>-1</sup> , 2,500-4,000 f.c. (26,900-43,100 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) daminozide 2,500-5,000 ppm Spray	(m) Level 2-4 (t) 60-65°F (16-18°C) (l) 8-15 mol-m <sup>-2</sup> -d <sup>-1</sup> , 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) daminozide 2,500-5,000 ppm Spray	
PETUNIA (SPREADING) <i>Petunia x hybrida</i> <b>Wave® F<sub>1</sub> Series</b>	PEL	288 128	4-6 5-7	1 1	No	3-5	5.5-6.0 pH 0.75 mmhos/cm	(m) Level 4-5 (t) 72-75°F (22-24°C) (l) Optional	(m) Level 3-4 (t) 68-75°F (20-24°C) (l) 6 mol-m <sup>-2</sup> -d <sup>-1</sup> , 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 65-70°F (18-21°C) (l) 8-12 mol-m <sup>-2</sup> -d <sup>-1</sup> , 2,500-4,000 f.c. (26,900-43,100 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) daminozide 2,500-5,000 ppm Spray	(m) Level 2-4 (t) 60-65°F (16-18°C) (l) 8-15 mol-m <sup>-2</sup> -d <sup>-1</sup> , 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) daminozide 2,500-5,000 ppm Spray	
PHLOX <i>Phlox drummondii</i> <b>21st Century F<sub>1</sub> Series</b>	PRM	288	4-5	1	Yes	3-5	5.8-6.0 pH 0.75 mmhos/cm	(m) Level 4 (t) 65-70°F (18-21°C) (l) Dark	(m) Level 3-4 (t) 65-72°F (18-22°C) (l) 1,000 f.c. (10,800 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3 (t) 60-65°F (16-18°C) (l) 2,500-3,000 f.c. (26,900-32,300 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) daminozide 2,500 ppm Spray	(m) Level 2-3 (t) 60-65°F (16-18°C) (l) 2,500-3,000 f.c. (26,900-32,300 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) daminozide 2,500 ppm Spray	Cover thoroughly with coarse vermiculite. Darkness is required for germination.

CLASS/SERIES	SEED FORM	RECOMMENDED PLUG SIZE	PLUG CROP WEEKS	SEEDS/CELL	COVER SEED	DAYS TO GERMINATE	INITIAL MEDIA PH/EC	STAGE 1	STAGE 2	STAGE 3	STAGE 4	KEY TIPS
PHLOX <i>Phlox drummondii</i> <b>Ethnie Series</b>	RAW	288	4-5	1	Yes	3-5	5.8-6.0 pH 0.75 mmhos/cm	(m) Level 4 (t) 65-70°F (18-21°C) (l) Dark	(m) Level 3-4 (t) 65-72°F (18-22°C) (l) 1,000 f.c. (10,800 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3 (t) 60-65°F (16-18°C) (l) 2,500-3,000 f.c. (26,900-32,300 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) daminozide 2,500 ppm Spray	(m) Level 2-3 (t) 60-65°F (16-18°C) (l) 2,500-3,000 f.c. (26,900-32,300 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) daminozide 2,500 ppm Spray	Cover thoroughly with coarse vermiculite. Darkness is required for germination.
PHLOX <i>Phlox drummondii</i> <b>Grammy Pink &amp; White F<sub>1</sub></b>	PRM	288	4-5	1	Yes	3-5	5.8-6.0 pH 0.75 mmhos/cm	(m) Level 4 (t) 65-70°F (18-21°C) (l) Dark	(m) Level 3-4 (t) 65-72°F (18-22°C) (l) 1,000 f.c. (10,800 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3 (t) 60-65°F (16-18°C) (l) 2,500-3,000 f.c. (26,900-32,300 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-3 (t) 60-65°F (16-18°C) (l) 2,500-3,000 f.c. (26,900-32,300 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Cover thoroughly with coarse vermiculite. Darkness is required for germination.
PHLOX <i>Phlox drummondii</i> <b>Promise Series</b>	RAW	288	4-5	1	Yes	3-5	5.8-6.0 pH 0.75 mmhos/cm	(m) Level 4 (t) 65-70°F (18-21°C) (l) Dark	(m) Level 3-4 (t) 65-72°F (18-22°C) (l) 1,000 f.c. (10,800 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3 (t) 60-65°F (16-18°C) (l) 2,500-3,000 f.c. (26,900-32,300 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) daminozide 2,500 ppm Spray	(m) Level 2-3 (t) 60-65°F (16-18°C) (l) 2,500-3,000 f.c. (26,900-32,300 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) daminozide 2,500 ppm Spray	Cover thoroughly with coarse vermiculite. Darkness is required for germination.
PLECTRANTHUS <i>Plectranthus argentatus</i> <b>Silver Crest</b>	RAW	288	5-6	1	No	4-5	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 64-72°F (18-22°C) (l) Light	(m) Level 3-4 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 68-72°F (20-22°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) daminozide 600-1,200 ppm Spray	(m) Level 2-3 (t) 65-72°F (18-22°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Does not need pinching. If needed, a daminozide spray will work to tone the plugs.
PLECTRANTHUS <i>Plectranthus argentatus</i> <b>Silver Shield</b>	PEL	288	5-6	1	No	5-7	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 64-72°F (18-22°C) (l) Light	(m) Level 3-4 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 68-72°F (20-22°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) daminozide 2,500 ppm Spray	(m) Level 2-3 (t) 65-72°F (18-22°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Does not need pinching. One to two foliar sprays of daminozide may be needed to tone plugs. Daminozide applications at a rate of 600 to 1,500 ppm are best for Northern European conditions.
PORTULACA <i>Portulaca grandiflora</i> <b>Happy Hour F<sub>1</sub> Series</b>	MPL, RAW	288	4-5	1 4-6	No	2-3	5.5-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 71-79°F (22-26°C) (l) Light (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3 (t) 71-73°F (22-23°C) (l) 2,500 f.c. (26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 68-73°F (20-23°C) (l) 2,500 f.c. (26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-4 (t) 65-67°F (18-19°C) (l) 5,000 f.c. (53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	To prevent plants from rosetting, sow seeds when the natural daylength is longer than 10 hours and 30 minutes. If sowing earlier than suggested, provide long day conditions (daylength extension to 12 to 13 hours) during all phases of production until critical natural daylength is achieved.
PORTULACA <i>Portulaca grandiflora</i> <b>Happy Trails F<sub>1</sub> Series</b>	MPL, RAW	288	4-5	1 4-6	No	2-3	5.5-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 71-79°F (22-26°C) (l) Light (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3 (t) 71-73°F (22-23°C) (l) 2,500 f.c. (26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 68-73°F (20-23°C) (l) 2,500 f.c. (26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-4 (t) 65-67°F (18-19°C) (l) 5,000 f.c. (53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	To prevent plants from rosetting, sow seeds when the natural daylength is longer than 10 hours. If sowing earlier than suggested, provide long day conditions (daylength extension to 12 to 13 hours) during all phases of production until critical natural daylength is achieved.
PRIMULA <i>Primula acaulis</i> <b>Heritage Crème F<sub>1</sub></b>	RAW	288	5-6	1	Light cover	7-10	5.5-5.8 pH 0.75 mmhos/cm	(m) Level 4-5 (t) 64-68°F (18-20°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 60-62°F (16-17°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 66-72°F (19-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 3 (t) 64-68°F (18-20°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Avoid too high light levels (> 3,000 f.c.) to prevent leaf damage.
PRIMULA <i>Primula acaulis</i> <b>Optic F<sub>1</sub> Series</b>	PRM	288	5-6	1	Light cover	7-10	5.5-5.8 pH 0.75 mmhos/cm	(m) Level 4 (t) 64-68°F (18-20°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 60-62°F (16-17°C) (l) 500-1,500 f.c. (5,400-10,800 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 60-62°F (16-17°C) (l) 2,000-2,500 f.c. (21,500-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 3-4 (t) 60-62°F (16-17°C) (l) 2,000-2,500 f.c. (21,500-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Avoid too high light levels (> 3,000 f.c.) to prevent leaf damage.
PRIMULA <i>Primula acaulis</i> <b>Primlet® Series</b>	RAW	288	5-6	1	Light cover	7-10	5.5-5.8 pH 0.75 mmhos/cm	(m) Level 4-5 (t) 64-68°F (18-20°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 60-62°F (16-17°C) (l) 500-1,500 f.c. (5,400-16,100 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 60-62°F (16-17°C) (l) 2,000-2,500 f.c. (21,500-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 3-4 (t) 60-62°F (16-17°C) (l) 2,000-2,500 f.c. (21,500-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Avoid too high light levels (> 3,000 f.c.) to prevent leaf damage.
PURSLANE <i>Portulaca oleracea</i> <b>Toucan Series</b>	RAW	288	4-5	4	No	3-4	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 68-74°F (20-23°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 72-75°F (22-24°C) (l) 2,500 f.c. (26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 64-68°F (18-20°C) (l) 2,500 f.c. (26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-4 (t) 64-68°F (18-20°C) (l) 5,000 f.c. (53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	
RUELLIA <i>Ruellia brittoniana</i> <b>Southern Star Series</b>	RAW	288	5-6	1	Yes	5-6	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 72-76°F (22-24°C) (l) Optional	(m) Level 3-4 (t) 72-75°F (22-24°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-4 (t) 65-68°F (18-20°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	
SALVIA <i>Salvia splendens</i> <b>Flare</b>	RAW	288	4-5	1	Yes	4-6	5.5-5.8 pH 0.75 mmhos/cm	(m) Level 4 (t) 70-75°F (21-24°C) (l) Optional	(m) Level 3-4 (t) 72-75°F (22-24°C) (l) 1,500-2,500 f.c. (16,100-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 68-72°F (20-22°C) (l) 3,000 f.c. (32,300 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-3 (t) 62-65°F (17-18°C) (l) 3,000 f.c. (32,300 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Salvia is very sensitive to high salt during early plug stages.

CLASS/SERIES	SEED FORM	RECOMMENDED PLUG SIZE	PLUG CROP WEEKS	SEEDS/CELL	COVER SEED	DAYS TO GERMINATE	INITIAL MEDIA PH/EC	STAGE 1	STAGE 2	STAGE 3	STAGE 4	KEY TIPS
SALVIA <i>Salvia splendens</i> <b>Lighthouse Series</b>	RAW	288	4-5	1	Yes	4-6	5.5-5.8 pH 0.75 mmhos/cm	(m) Level 4 (t) 70-75°F (21-24°C) (l) Optional	(m) Level 3-4 (t) 72-75°F (22-24°C) (l) 1,500-2,500 f.c. (16,100-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 68-72°F (20-22°C) (l) 3,000 f.c. (32,300 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-3 (t) 62-65°F (17-18°C) (l) 3,000 f.c. (32,300 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Salvia is very sensitive to high salt during early plug stages.
SALVIA <i>Salvia splendens</i> <b>Red Hot Sally II</b>	RAW	288	4-5	1	Yes	4-6	5.5-5.8 pH 0.75 mmhos/cm	(m) Level 4 (t) 70-75°F (21-24°C) (l) Optional	(m) Level 3-4 (t) 72-75°F (22-24°C) (l) 1,500-2,000 f.c. (16,100-21,500 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 68-72°F (20-22°C) (l) 3,000 f.c. (32,300 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-3 (t) 62-65°F (17-18°C) (l) 3,000 f.c. (32,300 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Salvia is very sensitive to high salt during early plug stages.
SALVIA <i>Salvia splendens</i> <b>Scarlet King</b>	RAW	288	4-5	1	Yes	4-6	5.5-5.8 pH 0.75 mmhos/cm	(m) Level 4 (t) 70-75°F (21-24°C) (l) Optional	(m) Level 3-4 (t) 72-75°F (22-24°C) (l) 1,500-2,500 f.c. (16,100-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 68-72°F (20-22°C) (l) 3,000 f.c. (32,300 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-3 (t) 62-65°F (17-18°C) (l) 3,000 f.c. (32,300 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Salvia is very sensitive to high salt during early plug stages.
SALVIA <i>Salvia splendens</i> <b>Vista Series</b>	RAW	288	4-5	1	Yes	4-6	5.5-5.8 pH 0.75 mmhos/cm	(m) Level 4 (t) 70-75°F (21-24°C) (l) Optional	(m) Level 3-4 (t) 72-75°F (22-24°C) (l) 1,500 f.c. (16,100 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 68-72°F (20-22°C) (l) 3,000 f.c. (32,300 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-3 (t) 62-65°F (17-18°C) (l) 3,000 f.c. (32,300 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Salvia is very sensitive to high salt during early plug stages.
SALVIA INTERSPECIFIC <i>Salvia longispicata x farinacea</i> <b>Big Blue</b>	RAW	288 128	3-4 4-5	1 1	Optional	4	5.5-5.8 pH 0.75 mmhos/cm	(m) Level 4 (t) 68-77°F (20-25°C) (l) Optional	(m) Level 3-4 (t) 68-77°F (20-25°C) (l) 1,500-2,500 f.c. (16,100-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 68-72°F (20-22°C) (l) 3,000 f.c. (32,300 Lux) (f) Less than 100 ppm N - Less than 0.7 EC (p) daminozide 2,500 ppm Spray	(m) Level 2-3 (t) 62-65°F (17-18°C) (l) 3,000 f.c. (32,300 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	Salvia Big Blue is responsive to daminozide 2,500 ppm spray, or ancymidol 5 ppm spray, or paclobutrazol 5 ppm spray. Recommended first application 2 weeks after sow, and repeat in 7-10 days as needed. Rates recommended are for the Midwest, and will need to be adjusted for your location and conditions.
SCUTELLARIA <i>Scutellaria javanica</i> <b>Veranda</b>	RAW	288	6	1	No	6-10	5.5-6.1 pH 0.75 mmhos/cm	(m) Level 4 (t) 70-75°F (21-24°C) (l) Light	(m) Level 3-4 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-4 (t) 66-70°F (19-21°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Heat-loving crop; crop time is very dependent on temperature.
SNAPDRAGON <i>Antirrhinum majus</i> <b>Rocket F<sub>1</sub> Series</b>	RAW	288	5-6	1	Light cover	4-8	5.5-5.8 pH 0.75 mmhos/cm	(m) Level 4 (t) 65-75°F (18-24°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 65-70°F (18-21°C) (l) 2,500 f.c. (26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 62-65°F (17-18°C) (l) 2,500 f.c. (26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 3 (t) 60-62°F (16-17°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	
SNAPDRAGON <i>Antirrhinum majus</i> <b>Snapshot F<sub>1</sub> Series</b>	RAW	288	5-6	1	Light cover	4-6	5.5-5.8 pH 0.75 mmhos/cm	(m) Level 4 (t) 64-68°F (18-20°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 65-70°F (18-21°C) (l) 450-1,500 f.c. (4,800-16,100 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 62-65°F (17-18°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) ancymidol 10 ppm Spray	(m) Level 3 (t) 60-62°F (16-17°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) ancymidol 10 ppm Spray	Plant Growth Regulators: Use DIF whenever possible. A-Rest sprayed 3 and 4 weeks after sowing at 10 ppm is effective in controlling height.
SNAPDRAGON <i>Antirrhinum majus</i> <b>Solstice F<sub>1</sub> Series</b>	RAW	288	5-6	1	Light cover	4-8	5.5-5.8 pH 0.75 mmhos/cm	(m) Level 4 (t) 64-68°F (18-20°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 65-70°F (18-21°C) (l) 450-1,500 f.c. (4,800-16,100 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 62-65°F (17-18°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) ancymidol 10 ppm Spray	(m) Level 3 (t) 60-62°F (16-17°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) ancymidol 10 ppm Spray	Plant Growth Regulators: Use DIF whenever possible. A-Rest sprayed 3 and 4 weeks after sowing at 10 ppm is effective in controlling height.
SPIRANTHES <i>Acmella oleracea</i> <b>Peek-A-Boo</b>	COT	288	4-5	1	Light cover	4	5.5-6.3 pH 0.75 mmhos/cm	(m) Level 4 (t) 72-76°F (22-24°C) (l) Light	(m) Level 3-4 (t) 65-72°F (18-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 65-70°F (18-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-4 (t) 62-65°F (17-18°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Requires light to germinate.
STOCK <i>Matthiola incana</i> <b>Vintage Series</b>	RAW	288	4	1	Yes	3-5	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 68-72°F (20-22°C) (l) Optional	(m) Level 3-4 (t) 65-68°F (18-20°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 60-65°F (16-18°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 3 (t) 55-60°F (13-16°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	
TALINUM <i>Talinum paniculatum</i> <b>Limón</b>	RAW	288	5	1	Yes	4-5	5.5-6.1 pH 0.75 mmhos/cm	(m) Level 4 (t) 68-74°F (20-23°C) (l) Optional	(m) Level 3-4 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 66-70°F (19-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-4 (t) 66-68°F (19-20°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	
TALINUM <i>Talinum paniculatum</i> <b>Verde</b>	RAW	288	5	1	Yes	6	5.5-6.1 pH 0.75 mmhos/cm	(m) Level 4 (t) 68-74°F (20-23°C) (l) Optional	(m) Level 3-4 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 66-70°F (19-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-4 (t) 66-68°F (19-20°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	
THUNBERGIA <i>Thunbergia alata</i> <b>Susie Series</b>	RAW	288	4-5	1	Light cover	6-12	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 70-75°F (21-24°C) (l) Light	(m) Level 3-4 (t) 65-70°F (18-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 65-70°F (18-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3 (t) 60-65°F (16-18°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Pre-soak seed overnight for faster germination.

CLASS/SERIES	SEED FORM	RECOMMENDED PLUG SIZE	PLUG CROP WEEKS	SEEDS/CELL	COVER SEED	DAYS TO GERMINATE	INITIAL MEDIA PH/EC	STAGE 1	STAGE 2	STAGE 3	STAGE 4	KEY TIPS
THYMOPHYLLA <i>Thymophylla tenuiloba</i> <b>Golden Dawn</b>	RAW	288	4-5	2-4	Light cover	7-10	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 64-68°F (18-20°C) (l) Light (f) Less than 100 ppm N - Less than 0.7 EC				Pre-cool 1 week at 50°F (10°C), then 64-68°F (18 to 20°C). Lowering temperature after germination results in more compact seedlings.
TORENIA <i>Torenia fourmieri</i> <b>Kauai Series</b>	PEL	288	5-6	1	No	4-6	5.5-6.0 pH 0.75 mmhos/cm	(m) Level 4 (t) 71-76°F (22-24°C) (l) Light (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3 (t) 68-73°F (20-23°C) (l) 2,500 f.c. (26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-70°F (20-21°C) (l) 2,500 f.c. (26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 3-4 (t) 65-67°F (18-19°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	
VERBENA <i>Verbena x hybrida</i> <b>Quartz Series</b>	PRM, RAW	288	5-6	1	Yes	4-6	5.8-6.2 pH 0.5-0.7 mmhos/cm	(m) Level 3 (t) 72-75°F (22-24°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 4 (t) 70-72°F (21-22°C) (l) 1,500-2,500 f.c. (16,100-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-70°F (20-21°C) (l) 1,500-2,500 f.c. (16,100-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 3-4 (t) 68-70°F (20-21°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Avoid excessive moisture in plug media during germination Stage 1. If needed, 1 to 3 applications of B-Nine/Alar (daminozide) at 1,250 ppm (1.5 g/l 85% formulation or 2 g/l 64% formulation) spray has been tested and shown to be effective. In warmer climates, it is also possible to apply A-rest (ancymidol) at 10 ppm (37.6 ml/l, 0.0264% formulation) as a foliar spray.
VERBENA <i>Verbena x hybrida</i> <b>Quartz XP Series</b>	PRM, RAW	288	4-5	1	Yes	4-6	5.8-6.2 pH 0.5-0.7 mmhos/cm	(m) Level 3 (t) 72-75°F (22-24°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 4 (t) 70-72°F (21-22°C) (l) 1,500-2,500 f.c. (16,100-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-70°F (20-21°C) (l) 1,500-2,500 f.c. (16,100-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 3-4 (t) 68-70°F (20-21°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Avoid excessive moisture in plug media during germination Stage 1. If needed, 1 to 3 applications of B-Nine/Alar (daminozide) at 1,250 ppm (1.5 g/l 85% formulation or 2 g/l 64% formulation) spray has been tested and shown to be effective. In warmer climates, it is also possible to apply A-rest (ancymidol) at 10 ppm (37.6 ml/l, 0.0264% formulation) as a foliar spray.
VINCA <i>Catharanthus roseus</i> <b>Jams 'N Jellies Series</b>	RAW	288	5	1	Yes	3-5	5.8-6.0 pH 0.75 mmhos/cm	(m) Level 4 (t) 75-78°F (24-26°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 70-72°F (21-22°C) (l) 2,500 f.c. (26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 70-72°F (21-22°C) (l) 2,500 f.c. (26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-4 (t) 70-72°F (21-22°C) (l) 5,000 f.c. (53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Bottom heat during production can increase yield potential and decrease crop time.
VINCA <i>Catharanthus roseus</i> <b>Mediterranean Series</b>	RAW	288	5	1	Yes	3-5	5.8-6.0 pH 0.75 mmhos/cm	(m) Level 4 (t) 75-78°F (24-26°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 70-72°F (21-22°C) (l) 2,500 f.c. (26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 70-72°F (21-22°C) (l) 2,500 f.c. (26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-4 (t) 70-72°F (21-22°C) (l) 5,000 f.c. (53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Bottom heat during production can increase yield potential and decrease crop time.
VINCA <i>Catharanthus roseus</i> <b>Mediterranean XP Series</b>	RAW	288	5	1	Yes	3-5	5.8-6.0 pH 0.75 mmhos/cm	(m) Level 4 (t) 75-78°F (24-26°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 70-72°F (21-22°C) (l) 2,500 f.c. (26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 70-72°F (21-22°C) (l) 2,500 f.c. (26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-4 (t) 70-72°F (21-22°C) (l) 5,000 f.c. (53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Bottom heat during production can increase yield potential and decrease crop time.
VINCA <i>Catharanthus roseus</i> <b>Pacifica XP Series</b>	RAW	288	5	1	Yes	3-5	5.8-6.0 pH 0.75 mmhos/cm	(m) Level 4 (t) 75-78°F (24-26°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 70-72°F (21-22°C) (l) 2,500 f.c. (26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 70-72°F (21-22°C) (l) 2,500 f.c. (26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-4 (t) 70-72°F (21-22°C) (l) 5,000 f.c. (53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Bottom heat during production can increase yield potential and decrease crop time.
VINCA <i>Catharanthus roseus</i> <b>Tattoo Series</b>	RAW	288	5	1	Yes	3-5	5.8-6.0 pH 0.75 mmhos/cm	(m) Level 4 (t) 75-78°F (24-26°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 70-72°F (21-22°C) (l) 2,500 f.c. (26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 70-72°F (21-22°C) (l) 2,500 f.c. (26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 70-72°F (21-22°C) (l) 5,000 f.c. (53,800 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	Bottom heat during production can increase yield potential and decrease crop time.
VINCA <i>Catharanthus roseus</i> <b>Titan® F<sub>1</sub> Series</b>	RAW	288	5	1	Yes	3-5	5.8-6.0 pH 0.75 mmhos/cm	(m) Level 4 (t) 75-78°F (24-26°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 70-72°F (21-22°C) (l) 2,500 f.c. (26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 70-72°F (21-22°C) (l) 2,500 f.c. (26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-4 (t) 70-72°F (21-22°C) (l) 5,000 f.c. (53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Bottom heat during production can increase yield potential and decrease crop time.
VINCA <i>Catharanthus roseus</i> <b>Valiant F<sub>1</sub> Series</b>	RAW	288	5	1	Yes	3-5	5.8-6.0 pH 0.75 mmhos/cm	(m) Level 4 (t) 75-78°F (24-26°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 70-72°F (21-22°C) (l) 2,500 f.c. (26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 70-72°F (21-22°C) (l) 2,500 f.c. (26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 70-72°F (21-22°C) (l) 5,000 f.c. (53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Bottom heat during production can increase yield potential and decrease crop time.

CLASS/SERIES	SEED FORM	RECOMMENDED PLUG SIZE	PLUG CROP WEEKS	SEEDS/ CELL	COVER SEED	DAYS TO GERMINATE	INITIAL MEDIA PH/EC	STAGE 1	STAGE 2	STAGE 3	STAGE 4	KEY TIPS
VIOLA <i>Viola cornuta</i> <b>Sorbet® F<sub>1</sub> Series</b>	PRM, RAW	288	5	1	Yes	3-4	5.5-5.8 pH 0.75 mmhos/cm	(m) Level 4 (t) 65-70°F (18-21°C) (l) Optional	(m) Level 3-4 (t) 60-65°F (16-18°C) (l) 2,500 f.c. (26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 60-65°F (16-18°C) (l) 2,500 f.c. (26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) ancymidol 5-10 ppm Spray or daminozide 1,500-2,500 ppm Spray	(m) Level 2-4 (t) 55-60°F (13-16°C) (l) 5,000 f.c. (53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) ancymidol 5-10 ppm Spray or daminozide 1,500-2,500 ppm Spray	Adjust PGR rates and frequency of application depending on local conditions in Stages 3 and 4.
VIOLA <i>Viola cornuta</i> <b>Sorbet® XP F<sub>1</sub> Series</b>	PRM, RAW	288	5	1	Yes	3-4	5.5-5.8 pH 0.75 mmhos/cm	(m) Level 4 (t) 65-70°F (18-21°C) (l) Optional	(m) Level 3-4 (t) 60-70°F (16-21°C) (l) 2,500 f.c. (26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 60-65°F (16-18°C) (l) 2,500 f.c. (26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) ancymidol 5-10 ppm Spray or daminozide 1,500-2,500 ppm Spray	(m) Level 2-4 (t) 55-60°F (13-16°C) (l) 5,000 f.c. (53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) ancymidol 5-10 ppm Spray or daminozide 1,500-2,500 ppm Spray	Adjust PGR rates and frequency of application depending on local conditions in Stages 3 and 4.
ZINNIA <i>Zinnia marylandica</i> <b>Double Zahara Series</b>	COT, RAW	288	3	1	Yes	2-3	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 68-73°F (20-23°C) (l) Optional	(m) Level 3-4 (t) 68-76°F (20-24°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-76°F (20-24°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) daminozide 1,250-2,500 ppm Spray	(m) Level 3 (t) 65-70°F (18-21°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Avoid excessive moisture on plants and flowers. Monitor for Botrytis.
ZINNIA <i>Zinnia angustifolia</i> <b>Star Series</b>	RAW	288	4-5	1	Yes	2-5	5.8-6.2 pH 0.75 mmhos/cm	(t) 70-73°F (21-23°C)				
ZINNIA <i>Zinnia elegans</i> (syn. <i>Zinnia violaceae</i> ) <b>State Fair Series</b>	RAW	288	4-5	1	Yes	2-5	5.8-6.2 pH 0.75 mmhos/cm	(t) 70-73°F (21-23°C)				
ZINNIA <i>Zinnia marylandica</i> <b>UpTown Series</b>	COT	288	3	1	Light cover	2-3	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 68-73°F (20-23°C) (l) Optional	(m) Level 3-4 (t) 70-75°F (21-24°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 70-75°F (21-24°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) daminozide 1,250-2,500 ppm Spray	(m) Level 3 (t) 65-70°F (18-21°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Avoid excessive moisture on plants and flowers. Monitor for Botrytis.
ZINNIA <i>Zinnia marylandica</i> <b>Zahara® Series</b>	COT, RAW	288	3	1	Light cover	2-3	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 68-73°F (20-23°C) (l) Optional	(m) Level 3-4 (t) 70-75°F (21-24°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 70-75°F (21-24°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) daminozide 1,250-2,500 ppm Spray	(m) Level 3 (t) 65-70°F (18-21°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Avoid excessive moisture on plants and flowers. Monitor for Botrytis.
ZINNIA <i>Zinnia marylandica</i> <b>Zahara® XL Series</b>	COT, RAW	288	3	1	Light cover	2-3	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 68-73°F (20-23°C) (l) Optional	(m) Level 3-4 (t) 70-75°F (21-24°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 70-75°F (21-24°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) daminozide 3,500 ppm Spray	(m) Level 3 (t) 65-70°F (18-21°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Avoid excessive moisture on plants and flowers. Monitor for Botrytis.



CLASS/SERIES	RECOMMENDED PLUG SIZE	GROWING ON TEMPERATURE (DAYS/NIGHTS)	TARGET MEDIA PH/EC	DAYLENGTH	FINISHING PROGRAMS	KEY TIPS
ABUTILON <i>Abutilon x hybridum</i> <b>Bella Series</b>	288	(day) 65-70°F (18-21°C) (night) 60-65°F (16-18°C)	5.5-6.5 pH 1.2-1.5 mmhos/cm	Day Neutral	4"/4.5"/Quart, 1 (ppp), 6-8 (weeks), Spring, PGR paclobutrazol 5 ppm Spray 5"/6"/1 Gallon, 2-3 (ppp), 7-10 (weeks), Spring, PGR paclobutrazol 5 ppm Spray	Space plants adequately to get the best branching and the showiest plants.
AGERATUM <i>Ageratum houstonianum</i> <b>High Tide® F1 Series</b>	288	(day) 70-80°F (21-27°C) (night) 58-62°F (14-17°C)	5.8-6.2 pH 1.2-1.5 mmhos/cm	Facultative Long Day	306 Pack, 1 (ppp), 7-9 (weeks), Late Spring, PGR daminozide 2,500-3,500 ppm Spray 4"/4.5"/Quart, 1 (ppp), 7-9 (weeks), Late Spring, PGR daminozide 2,500-3,500 ppm Spray 5"/6"/1 Gallon, 1-3 (ppp), 7-9 (weeks), Late Spring, PGR daminozide 2,500-3,500 ppm Spray	
ALTERNANTHERA <i>Alternanthera dentata</i> <b>Purple Knight</b>	288	(day) 65-75°F (18-24°C) (night) 62-65°F (17-18°C)	5.8-6.2 pH 1.2-1.5 mmhos/cm	Obligate Short Day	306 Pack, 1 (ppp), 7-8 (weeks), Spring, PGR daminozide 2,500-5,000 ppm Spray 306 Pack, 1 (ppp), 7-8 (weeks), Spring, PGR paclobutrazol 15-20 ppm Spray 4"/4.5"/Quart, 1 (ppp), 7-8 (weeks), Spring, PGR daminozide 2,500-5,000 ppm Spray 4"/4.5"/Quart, 1 (ppp), 7-8 (weeks), Spring, PGR paclobutrazol 15-20 ppm Spray 5"/6"/1 Gallon, 3 (ppp), 8-9 (weeks), Spring, PGR daminozide 2,500-5,000 ppm Spray 5"/6"/1 Gallon, 3 (ppp), 8-9 (weeks), Spring, PGR paclobutrazol 15-20 ppm Spray	Grow plants with daylength longer than 12 hours to maintain vegetative growth. Growing under high light conditions will result in deeper purple foliage.
ALTERNANTHERA <i>Alternanthera brasiliana</i> <b>Purple Prince</b>	288	(day) 65-75°F (18-24°C) (night) 62-65°F (17-18°C)	5.8-6.2 pH 1.2-1.5 mmhos/cm	Obligate Short Day	306 Pack, 1 (ppp), 7-8 (weeks), Spring, PGR daminozide 2,500-5,000 ppm Spray 306 Pack, 1 (ppp), 7-8 (weeks), Spring, PGR paclobutrazol 15-20 ppm Spray 4"/4.5"/Quart, 1 (ppp), 7-8 (weeks), Spring, PGR daminozide 2,500-5,000 ppm Spray 4"/4.5"/Quart, 1 (ppp), 7-8 (weeks), Spring, PGR paclobutrazol 15-20 ppm Spray 5"/6"/1 Gallon, 3 (ppp), 8-9 (weeks), Spring, PGR daminozide 2,500-5,000 ppm Spray 5"/6"/1 Gallon, 3 (ppp), 8-9 (weeks), Spring, PGR paclobutrazol 15-20 ppm Spray	Alternanthera Purple Prince is grown for its burgundy foliage. Grow plants with daylength longer than 12 hours to maintain vegetative growth. Growing under high light conditions will result in deeper purple foliage. Pinching is not needed.
ALYSSUM <i>Lobularia maritima</i> <b>Clear Crystal® Series</b>	288	(day) 60-75°F (16-24°C) (night) 55-60°F (13-16°C)	5.8-6.2 pH 1.5-2.0 mmhos/cm	Day Neutral	306 Pack, 1 (ppp), 4-6 (weeks), Late Spring 4"/4.5"/Quart, 1 (ppp), 7 (weeks), Late Spring	Cool-season crop can be grown with little or no heat. Grow outdoors or at cool night temperatures for best colour development.
ALYSSUM <i>Lobularia maritima</i> <b>Easter Bonnet Series</b>	288	(day) 60-75°F (16-24°C) (night) 55-60°F (13-16°C)	5.8-6.2 pH 1.5-2.0 mmhos/cm	Day Neutral	Cell Pack, 1 (ppp), 5 (weeks), Late Spring	Cool-season crop can be grown with little or no heat. Grow outdoors or at cool night temperatures for best colour development.
ALYSSUM <i>Lobularia maritima</i> <b>Snow Crystals</b>	288	(day) 60-75°F (16-24°C) (night) 55-60°F (13-16°C)	5.8-6.2 pH 1.5-2.0 mmhos/cm	Day Neutral	306 Pack, 1 (ppp), 6-7 (weeks), Late Spring 4"/4.5"/Quart, 1 (ppp), 6-7 (weeks), Late Spring	Cool-season crop can be grown with little or no heat. Grow outdoors or at cool night temperatures for best colour development.
ANGELONIA <i>Angelonia angustifolia</i> <b>Serena® F1 Series</b>	288 128	(day) 65-76°F (18-24°C) (night) 65-67°F (18-19°C)	5.8-6.2 pH 1.5-2.0 mmhos/cm	Day Neutral	306 Pack, 1 (ppp), 8-9 (weeks), Late Spring, PGR daminozide/chlormequat chloride tank mix 2,500/750-2,500/1,000 ppm Spray 4"/4.5"/Quart, 1 (ppp), 9-10 (weeks), Late Spring, PGR daminozide/chlormequat chloride tank mix 2,500/750-2,500/1,000 ppm Spray	Angelonia grows slowly when the temperature is below 64°F (18°C). Recommended DLI range of 12 to 24 mol·m <sup>-2</sup> ·d <sup>-1</sup> . If growing in warmer climates, a paclobutrazol drench of 5-10 ppm can be applied 2 weeks after transplant instead of the daminozide/chlormequate chloride tank mix. Do not pinch plants. Pinching will result in uneven plant habit and a delay of flowering.
ANGELONIA <i>Angelonia angustifolia</i> <b>Serenita® F1 Series</b>	288 128	(day) 65-76°F (18-24°C) (night) 65-67°F (18-19°C)	5.8-6.2 pH 1.5-2.0 mmhos/cm	Day Neutral	306 Pack, 1 (ppp), 8-9 (weeks), Late Spring, PGR daminozide/chlormequat chloride tank mix 2,500/500-2,500/750 ppm Spray 4"/4.5"/Quart, 1 (ppp), 9-10 (weeks), Late Spring, PGR daminozide/chlormequat chloride tank mix 2,500/500-2,500/750 ppm Spray	Angelonia grows slowly when the temperature is below 64°F (18°C). Recommended DLI range of 12 to 24 mol·m <sup>-2</sup> ·d <sup>-1</sup> . Serenita requires less PGRs than Serena, as it is more compact and naturally shorter. It may not need any PGRs, especially under cool conditions. If necessary, use a tank mix of B-Nine/Alar (daminozide) 2,500 ppm mixed with Cycocel (chlormequat) 500 to 750 ppm. If growing in warmer climates, a paclobutrazol drench of 3 to 5 ppm can be applied 2 weeks after transplant instead of the daminozide/chlormequate chloride tank mix. Do not pinch plants. Pinching will result in uneven plant habit and a delay of flowering.
ASTER <i>Callistephus chinensis</i> <b>Pot 'N Patio Series</b>	288	(day) 65-75°F (18-24°C) (night) 55-65°F (13-18°C)	5.8-6.2 pH 1.0-1.5 mmhos/cm	Facultative Short Day	Cell Pack, 1 (ppp), 8 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 8 (weeks), Spring	Flowers just 90 days from sowing during short days of Winter and early Spring.
BACOPA <i>Sutera cordata</i> <b>Blutopia® F1</b>	288 128	(day) 60-75°F (16-24°C) (night) 55-60°F (13-16°C)	5.8-6.2 pH 1.5-2.0 mmhos/cm	Day Neutral	4"/4.5"/Quart, 1 (ppp), 4-6 (weeks), Spring, PGR daminozide 2,500 ppm Spray 10" Pot or HB/3 Gallon, 5-6 (ppp), 8-9 (weeks), Spring, PGR daminozide 2,500 ppm Spray	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. Avoid both excessive watering and drought. Do not let plants wilt, as this will result in flower/bud drop.
BACOPA <i>Sutera cordata</i> <b>Snowtopia® F1</b>	288 128	(day) 60-75°F (16-24°C) (night) 55-60°F (13-16°C)	5.8-6.2 pH 1.2-1.5 mmhos/cm	Day Neutral	4"/4.5"/Quart, 1 (ppp), 4-6 (weeks), Spring, PGR daminozide 2,500 ppm Spray 10" Pot or HB/3 Gallon, 5-6 (ppp), 8-9 (weeks), Spring, PGR daminozide 2,500 ppm Spray	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. Avoid both excessive watering and drought. Do not let plants wilt, as this will result in flower/bud drop.
BEGONIA <i>Begonia x hybrida</i> <b>BabyWing® F1 Series</b>	288	(day) 65-70°F (18-21°C) (night) 60-65°F (16-18°C)	6.0-6.5 pH 1.0-1.2 mmhos/cm	Day Neutral	4"/4.5"/Quart, 1 (ppp), 6-8 (weeks), Spring 5"/6"/1 Gallon, 1-2 (ppp), 6-8 (weeks), Spring 12" Pot or HB/5 Gallon, 3-4 (ppp), 6-8 (weeks), Spring	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.
BEGONIA <i>Begonia x hybrida</i> <b>Dragon Wing® F1 Series</b>	288	(day) 65-70°F (18-21°C) (night) 60-65°F (16-18°C)	5.4-6.0 pH 1.0 mmhos/cm	Facultative Short Day Long day will delay the flower initiation up to 3 to 4 weeks.	5"/6"/1 Gallon, 1 (ppp), 7-9 (weeks), Late Spring 8"/2 Gallon, 3 (ppp), 8-10 (weeks), Late Spring	Dragon Wing will flower faster under short day conditions. After transplant, use Bonzi 3 to 5 ppm spray for height control when needed.

CLASS/SERIES	RECOMMENDED PLUG SIZE	GROWING ON TEMPERATURE (DAYS/NIGHTS)	TARGET MEDIA PH/EC	DAYLENGTH	FINISHING PROGRAMS	KEY TIPS
BEGONIA <i>Begonia x hybrida</i> <b>Gryphon</b>	288	(day) 65-75°F (18-24°C) (night) 62-67°F (17-19°C)	5.4-6.0 pH 1.0 mmhos/cm	Facultative Short Day Gryphon is a foliage plant, but plant could flower when grown under a daylength of 11 hours or shorter. Under daylength longer than 11 hours, flowering will be significantly delayed or plants will never flower.	4"/4.5"/Quart, 1 (ppp), 5-6 (weeks), Summer 5"/6"/1 Gallon, 2-3 (ppp), 5-6 (weeks), Summer 8"/2 Gallon, 3 (ppp), 7-8 (weeks), Summer 12" Pot or HB/5 Gallon, 3-4 (ppp), 9-11 (weeks), Summer	To avoid flower as a foliage plant, grow under daylength longer than 11 hours.
BEGONIA <i>Begonia interspecific</i> <b>Megawatt F<sub>1</sub> Series</b>	288	(day) 65-70°F (18-21°C) (night) 60-65°F (16-18°C)	5.4-6.0 pH 1.0-1.2 mmhos/cm	Facultative Short Day	5"/6"/1 Gallon, 1 (ppp), 7-9 (weeks), Late Spring 5"/6"/1 Gallon, 1 (ppp), 7-10 (weeks), Summer 12" Pot or HB/5 Gallon, 3 (ppp), 9-11 (weeks), Summer	All Megawatt varieties flower faster under daylength of 12 hours or shorter. Longer daylength could delay flowering 4-7 days for all Megawatt varieties. If necessary, it is effective to spray paclobutrazol at 2 to 5 ppm dependent on environmental conditions, plant growing stage, and varieties for Megawatt plant size control. Repeat as needed.
CALIBRACHOA <i>Calibrachoa x hybrida</i> <b>Crave Collection F<sub>1</sub> Series</b>	288 128	(day) 64-75°F (18-24°C) (night) 55-64°F (13-18°C)	5.5-5.8 pH 1.5-2.0 mmhos/cm	Obligate Long Day 12 hours. DLI of 10 to 25 moles·m <sup>-2</sup> ·d <sup>-1</sup> .	4"/4.5"/Quart, 1 (ppp), 8-9 (weeks), Spring, PGR flurprimidol 2-3 ppm Drench 4"/4.5"/Quart, 1 (ppp), 8-9 (weeks), Spring, PGR paclobutrazol 2-3 ppm Drench 10" Pot or HB/3 Gallon, 3 (ppp), 9-11 (weeks), Spring, PGR flurprimidol 3-4 ppm Drench 10" Pot or HB/3 Gallon, 3 (ppp), 9-11 (weeks), Spring, PGR paclobutrazol 3-4 ppm Drench	Flower colour may shade slightly; under warmer night temperatures, the strawberry colour may become lighter.
CALIBRACHOA <i>Calibrachoa x hybrida</i> <b>Kabloom® F<sub>1</sub> Series</b>	288 128	(day) 64-75°F (18-24°C) (night) 55-64°F (13-18°C)	5.5-5.8 pH 1.5-2.0 mmhos/cm	Obligate Long Day 10 hours for Kabloom Yellow and Kabloom White; 11 hours for Kabloom Denim; 12 hours for Kabloom Deep Pink. DLI of 10 to 25 moles·m <sup>-2</sup> ·d <sup>-1</sup> .	4"/4.5"/Quart, 1 (ppp), 7-8 (weeks), Spring, PGR flurprimidol 1-2 ppm Drench 4"/4.5"/Quart, 1 (ppp), 7-8 (weeks), Spring, PGR paclobutrazol 1-3 ppm Drench 10" Pot or HB/3 Gallon, 3 (ppp), 9-11 (weeks), Spring, PGR flurprimidol 2-3 ppm Drench 10" Pot or HB/3 Gallon, 3 (ppp), 9-11 (weeks), Spring, PGR paclobutrazol 2-3 ppm Drench 10" Pot or HB/3 Gallon, 3 (ppp), 5-6 (weeks), Summer, PGR flurprimidol 2-3 ppm Drench 10" Pot or HB/3 Gallon, 3 (ppp), 5-6 (weeks), Summer, PGR paclobutrazol 2-3 ppm Drench	
CELOSIA <i>Celosia cristata</i> <b>Dracula</b>	288	(day) 65-72°F (18-22°C) (night) 59-65°F (15-18°C)	5.8-6.2 pH 1.0-1.5 mmhos/cm	Facultative intermediate response. It will flower the fastest at daylengths from 12 to 14 hours. Daylengths shorter than 11 hours or longer than 15 hours will significantly delay flowering and can affect flower uniformity and form.	5"/6"/1 Gallon, 1 (ppp), 6-9 (weeks), Spring	Flowers fastest between 12 to 14-hour days.
CELOSIA <i>Celosia plumosa</i> <b>First Flame Series</b>	288	(day) 65-70°F (18-21°C) (night) 59-61°F (15-16°C)	5.8-6.2 pH 1.0-1.5 mmhos/cm	Facultative Short Day	5"/6"/1 Gallon, 1 (ppp), 7-10 (weeks), Spring 5"/6"/1 Gallon, 1 (ppp), 5-7 (weeks), Summer	First Flame varieties do not need PGRs. If necessary, variety is responsive to B-Nine/Alar (daminozide) spray at 2,000 to 3,000 ppm (2.4 to 3.5 g/l, 85% formulation or 3.1 to 4.7 g/l 64% formulation) depending on weather. Keep media constantly moist to prevent premature flowering. First Flame Purple is around one week faster to flower compared to the rest of the series.
CELOSIA <i>Celosia plumosa</i> <b>Ice Cream Series</b>	288	(day) 65-70°F (18-21°C) (night) 59-61°F (15-16°C)	5.8-6.2 pH 1.0-1.5 mmhos/cm	Facultative Short Day	306 Pack, 1 (ppp), 6-8 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 7-9 (weeks), Spring 306 Pack, 1 (ppp), 5-7 (weeks), Summer 4"/4.5"/Quart, 1 (ppp), 5-7 (weeks), Summer	Keep medium constantly moist and do not allow to dry out. No PGRs are needed. If needed, Celosia Ice Cream is responsive to B-Nine/Alar (daminozide) spray at 2,000 to 3,000 ppm (2.4 to 3.5 g/l, 85% formulation or 3.1 to 4.7 g/l 64% formulation) depending on weather.
CELOSIA <i>Celosia spicata</i> <b>Kosmo Series</b>	288	(day) 65-68°F (18-20°C) (night) 62-65°F (17-18°C)	5.5-6.2 pH 1.0-1.5 mmhos/cm	Facultative Short Day Will flower faster and uniformly under daylength of 13 hours or shorter.	4"/4.5"/Quart, 1 (ppp), 6-8 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 5-7 (weeks), Summer	Keep medium constantly moist and do not allow to dry out. Does not need PGR. But if necessary, Alar/B-Nine, 2,000 to 2,500 ppm (2.4-3.0 g/l 85% formulation or 3.1 to 4.0 g/l 64% formulation) 2 to 3 applications can be used. Do not treat when flower buds become visible.
COLEUS <i>Solenostemon scutellarioides</i> <b>Black Dragon</b>	288	(day) 68-75°F (20-24°C) (night) 65-68°F (18-20°C)	5.8-6.2 pH 1.5-2.0 mmhos/cm	Facultative Short Day	Cell Pack, 1 (ppp), 5-6 (weeks), Spring	Ethephon can be applied to increase branching and control height.
COLEUS <i>Solenostemon scutellarioides</i> <b>Wizard® Series</b>	288	(day) 68-75°F (20-24°C) (night) 65-68°F (18-20°C)	5.8-6.2 pH 1.5-2.0 mmhos/cm	Facultative Short Day	Cell Pack, 1 (ppp), 7-9 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 7-9 (weeks), Spring 5"/6"/1 Gallon, 1 (ppp), 7-9 (weeks), Spring	Ethephon can be applied to increase branching and control height.
COLEUS, PREMIUM SHADE <i>Solenostemon scutellarioides</i> <b>Kong Jr. Series</b>	288	(day) 68-75°F (20-24°C) (night) 65-68°F (18-20°C)	5.8-6.2 pH 1.5-2.0 mmhos/cm	Facultative Short Day	5"/6"/1 Gallon, 1 (ppp), 4-5 (weeks), Spring 5"/6"/1 Gallon, 1 (ppp), 5-6 (weeks), Spring	Do not pinch, as it will result in smaller leaves and delay crop time. Ethephon can be applied to increase branching and control height. Growth Regulators: Kong and Kong Jr. are well branched and have short internodes, but because of the large leaves, the plants tend to get too wide and need more space before they get too tall. Growth regulators are generally not needed. But if necessary, B-Nine/Alar (daminozide) 2,500 to 5,000 ppm (3.0 to 6.0 g/l 85% formulation or 4.0 to 8.0 g/l of 64% formulation) can be applied at 2 to 3 weeks after transplanting. Repeat if necessary.
COLEUS, PREMIUM SHADE <i>Solenostemon scutellarioides</i> <b>Kong® Series</b>	288	(day) 68-75°F (20-24°C) (night) 65-68°F (18-20°C)	5.8-6.2 pH 1.5-2.0 mmhos/cm	Facultative Short Day	5"/6"/1 Gallon, 1 (ppp), 4-5 (weeks), Spring 5"/6"/1 Gallon, 1 (ppp), 5-6 (weeks), Spring	Ethephon can be applied to increase branching and control height. Do not pinch, as it will result in smaller leaves and delay crop time. Note: Kong Salmon Pink might appear dark bronze under some very low light conditions. Later in the season, and in Summer landscape, colour will appear Salmon Pink. Growth Regulators: Kong and Kong Jr. are well branched and have short internodes, but because of the large leaves, the plants tend to get too wide and need more space before they get too tall. Growth regulators are generally not needed. But if necessary, B-Nine/Alar (daminozide) 2,500 to 5,000 ppm (3.0 to 6.0 g/l 85% formulation or 4.0 to 8.0 g/l of 64% formulation) can be applied at 2 to 3 weeks after transplanting. Repeat if necessary.

CLASS/SERIES	RECOMMENDED PLUG SIZE	GROWING ON TEMPERATURE (DAYS/NIGHTS)	TARGET MEDIA PH/EC	DAYLENGTH	FINISHING PROGRAMS	KEY TIPS
COLEUS, PREMIUM SUN <i>Solenostemon scutellarioides</i> <b>Chocolate Covered Cherry</b>	288	(day) 68-75°F (20-24°C) (night) 65-68°F (18-20°C)	5.8-6.2 pH 1.5-2.0 mmhos/cm	Facultative Short Day	306 Pack, 1 (ppp), 6-8 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 6-8 (weeks), Spring 5"/6"/1 Gallon, 1 (ppp), 6-8 (weeks), Spring 5"/6"/1 Gallon, 3 (ppp), 6-8 (weeks), Spring	Excessive internode elongation under low light or crowding. Florel (ethephon) can be applied for promoting increased branching and height control if necessary. A rate of 300 ppm (7.69 ml/l 3.9% formulation or 0.63 ml/l of 48% formulation) at 2 to 3 weeks after transplanting is effective. Florel also delays flowering. Optional PGR: B-Nine/Alar (daminozide) 2,500 to 5,000 ppm (3.0 to 6.0 g/l 85% formulation or 4.0 to 8.0 g/l of 64% formulation) can be applied for height control at 2 to 3 weeks after transplanting. Repeat if necessary.
COLEUS, PREMIUM SUN <i>Solenostemon scutellarioides</i> <b>Chocolate Mint</b>	288	(day) 68-75°F (20-24°C) (night) 65-68°F (18-20°C)	5.8-6.2 pH 1.5-2.0 mmhos/cm	Facultative Short Day	4"/4.5"/Quart, 1 (ppp), 6-8 (weeks), Spring 5"/6"/1 Gallon, 1 (ppp), 6-8 (weeks), Spring 5"/6"/1 Gallon, 3 (ppp), 6-8 (weeks), Spring	Excessive internode elongation under low light or crowding. Florel (ethephon) can be applied for promoting increased branching and height control if necessary. A rate of 300 ppm (7.69 ml/l 3.9% formulation or 0.63 ml/l of 48% formulation) at 2 to 3 weeks after transplanting is effective. Florel also delays flowering. Optional PGR: B-Nine/Alar (daminozide) 2,500 to 5,000 ppm (3.0 to 6.0 g/l 85% formulation or 4.0 to 8.0 g/l of 64% formulation) can be applied for height control at 2 to 3 weeks after transplanting. Repeat if necessary.
COLEUS, PREMIUM SUN <i>Solenostemon scutellarioides</i> <b>Crimson Gold</b>	288	(day) 68-75°F (20-24°C) (night) 65-68°F (18-20°C)	5.8-6.2 pH 1.5-2.0 mmhos/cm	Facultative Short Day	4"/4.5"/Quart, 1 (ppp), 6-8 (weeks), Spring 5"/6"/1 Gallon, 1 (ppp), 6-8 (weeks), Spring 5"/6"/1 Gallon, 3 (ppp), 6-8 (weeks), Spring	Excessive internode elongation under low light or crowding. Florel (ethephon) can be applied for promoting increased branching and height control if necessary. A rate of 300 ppm (7.69 ml/l 3.9% formulation or 0.63 ml/l of 48% formulation) at 2 to 3 weeks after transplanting is effective. Florel also delays flowering. Optional PGR: B-Nine/Alar (daminozide) 2,500 to 5,000 ppm (3.0 to 6.0 g/l 85% formulation or 4.0 to 8.0 g/l of 64% formulation) can be applied for height control at 2 to 3 weeks after transplanting. Repeat if necessary.
COLEUS, PREMIUM SUN <i>Solenostemon scutellarioides</i> <b>Dark Chocolate</b>	288	(day) 68-75°F (20-24°C) (night) 65-68°F (18-20°C)	5.8-6.2 pH 1.5-2.0 mmhos/cm	Facultative Short Day	4"/4.5"/Quart, 1 (ppp), 6-8 (weeks), Spring 5"/6"/1 Gallon, 1 (ppp), 6-8 (weeks), Spring 5"/6"/1 Gallon, 3 (ppp), 6-8 (weeks), Spring	Excessive internode elongation under low light or crowding. Florel (ethephon) can be applied for promoting increased branching and height control if necessary. A rate of 300 ppm (7.69 ml/l 3.9% formulation or 0.63 ml/l of 48% formulation) at 2 to 3 weeks after transplanting is effective. Florel also delays flowering. Optional PGR: B-Nine/Alar (daminozide) 2,500 to 5,000 ppm (3.0 to 6.0 g/l 85% formulation or 4.0 to 8.0 g/l of 64% formulation) can be applied for height control at 2 to 3 weeks after transplanting. Repeat if necessary.
COLEUS, PREMIUM SUN <i>Solenostemon scutellarioides</i> <b>Lime Delight</b>	288	(day) 68-75°F (20-24°C) (night) 65-68°F (18-20°C)	5.8-6.2 pH 1.5-2.0 mmhos/cm	Facultative Short Day	4"/4.5"/Quart, 1 (ppp), 6-8 (weeks), Spring 5"/6"/1 Gallon, 1 (ppp), 6-8 (weeks), Spring 5"/6"/1 Gallon, 3 (ppp), 6-8 (weeks), Spring	Excessive internode elongation under low light or crowding. Florel (ethephon) can be applied for promoting increased branching and height control if necessary. A rate of 300 ppm (7.69 ml/l 3.9% formulation or 0.63 ml/l of 48% formulation) at 2 to 3 weeks after transplanting is effective. Florel also delays flowering. Optional PGR: B-Nine/Alar (daminozide) 2,500 to 5,000 ppm (3.0 to 6.0 g/l 85% formulation or 4.0 to 8.0 g/l of 64% formulation) can be applied for height control at 2 to 3 weeks after transplanting. Repeat if necessary.
COLEUS, PREMIUM SUN <i>Solenostemon scutellarioides</i> <b>Mighty Mosaic</b>	288	(day) 68-75°F (20-24°C) (night) 65-68°F (18-20°C)	5.8-6.2 pH 1.5-2.0 mmhos/cm	Facultative Short Day	4"/4.5"/Quart, 1 (ppp), 6-8 (weeks), Spring 5"/6"/1 Gallon, 1 (ppp), 6-8 (weeks), Spring 5"/6"/1 Gallon, 3 (ppp), 6-8 (weeks), Spring	Excessive internode elongation under low light or crowding. Florel (ethephon) can be applied for promoting increased branching and height control if necessary. A rate of 300 ppm (7.69 ml/l 3.9% formulation or 0.63 ml/l of 48% formulation) at 2 to 3 weeks after transplanting is effective. Florel also delays flowering. Optional PGR: B-Nine/Alar (daminozide) 2,500 to 5,000 ppm (3.0 to 6.0 g/l 85% formulation or 4.0 to 8.0 g/l of 64% formulation) can be applied for height control at 2 to 3 weeks after transplanting. Repeat if necessary.
COLEUS, PREMIUM SUN <i>Solenostemon scutellarioides</i> <b>Pineapple Surprise</b>	288	(day) 68-75°F (20-24°C) (night) 65-68°F (18-20°C)	5.8-6.2 pH 1.5-2.0 mmhos/cm	Facultative Short Day	4"/4.5"/Quart, 1 (ppp), 6-8 (weeks), Spring 5"/6"/1 Gallon, 1 (ppp), 6-8 (weeks), Spring 5"/6"/1 Gallon, 3 (ppp), 6-8 (weeks), Spring	Excessive internode elongation under low light or crowding. Florel (ethephon) can be applied for promoting increased branching and height control if necessary. A rate of 300 ppm (7.69 ml/l 3.9% formulation or 0.63 ml/l of 48% formulation) at 2 to 3 weeks after transplanting is effective. Florel also delays flowering. Optional PGR: B-Nine/Alar (daminozide) 2,500 to 5,000 ppm (3.0 to 6.0 g/l 85% formulation or 4.0 to 8.0 g/l of 64% formulation) can be applied for height control at 2 to 3 weeks after transplanting. Repeat if necessary.
COLEUS, PREMIUM SUN <i>Solenostemon scutellarioides</i> <b>Rose to Lime Magic</b>	288	(day) 68-75°F (20-24°C) (night) 65-68°F (18-20°C)	5.8-6.2 pH 1.5-2.0 mmhos/cm	Facultative Short Day	4"/4.5"/Quart, 1 (ppp), 6-8 (weeks), Spring 5"/6"/1 Gallon, 1 (ppp), 6-8 (weeks), Spring 5"/6"/1 Gallon, 3 (ppp), 6-8 (weeks), Spring	Excessive internode elongation under low light or crowding. Florel (ethephon) can be applied for promoting increased branching and height control if necessary. A rate of 300 ppm (7.69 ml/l 3.9% formulation or 0.63 ml/l of 48% formulation) at 2 to 3 weeks after transplanting is effective. Florel also delays flowering. Optional PGR: B-Nine/Alar (daminozide) 2,500 to 5,000 ppm (3.0 to 6.0 g/l 85% formulation or 4.0 to 8.0 g/l of 64% formulation) can be applied for height control at 2 to 3 weeks after transplanting. Repeat if necessary.
COLEUS, PREMIUM SUN <i>Solenostemon scutellarioides</i> <b>Watermelon</b>	288	(day) 68-75°F (20-24°C) (night) 65-68°F (18-20°C)	5.8-6.2 pH 1.5-2.0 mmhos/cm	Facultative Short Day	4"/4.5"/Quart, 1 (ppp), 6-8 (weeks), Spring 5"/6"/1 Gallon, 1 (ppp), 6-8 (weeks), Spring 5"/6"/1 Gallon, 3 (ppp), 6-8 (weeks), Spring	Excessive internode elongation under low light or crowding. Florel (ethephon) can be applied for promoting increased branching and height control if necessary. A rate of 300 ppm (7.69 ml/l 3.9% formulation or 0.63 ml/l of 48% formulation) at 2 to 3 weeks after transplanting is effective. Florel also delays flowering. Optional PGR: B-Nine/Alar (daminozide) 2,500 to 5,000 ppm (3.0 to 6.0 g/l 85% formulation or 4.0 to 8.0 g/l of 64% formulation) can be applied for height control at 2 to 3 weeks after transplanting. Repeat if necessary.
COLORGRASS ANEMANTHELE <i>Anemantele lessoniana</i> <b>Sirocco</b>	288	(day) 62-74°F (17-23°C) (night) 59-64°F (15-18°C)	5.5-6.2 pH 1.2-1.5 mmhos/cm	Day Neutral	306 Pack, 1 (ppp), 6-8 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 6-8 (weeks), Spring 5"/6"/1 Gallon, 1-3 (ppp), 6-8 (weeks), Spring 5"/6"/1 Gallon, 3 (ppp), 6-8 (weeks), Spring 5"/6"/1 Gallon, 1 (ppp), 8-10 (weeks), Spring	Colour is better under cool and high light conditions. If temperature permits, it is best to produce Sirocco in outdoor conditions.
COLORGRASS CAREX <i>Carex comans</i> <b>Amazon Mist</b>	288	(day) 66-74°F (19-23°C) (night) 64-66°F (18-19°C)	5.5-6.2 pH 1.2-1.5 mmhos/cm	Day Neutral	306 Pack, 1 (ppp), 9-10 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 9-10 (weeks), Spring 5"/6"/1 Gallon, 3 (ppp), 10-11 (weeks), Spring	
COLORGRASS CAREX <i>Carex comans</i> <b>Bronco</b>	288	(day) 66-74°F (19-23°C) (night) 64-66°F (18-19°C)	5.5-6.2 pH 1.2-1.5 mmhos/cm	Day Neutral	306 Pack, 1 (ppp), 8-9 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 8-9 (weeks), Spring 5"/6"/1 Gallon, 3 (ppp), 9-10 (weeks), Spring	

CLASS/SERIES	RECOMMENDED PLUG SIZE	GROWING ON TEMPERATURE (DAYS/NIGHTS)	TARGET MEDIA PH/EC	DAYLENGTH	FINISHING PROGRAMS	KEY TIPS
COLORGRASS CAREX <i>Carex comans</i> <b>Phoenix Green</b>	288	(day) 66-74°F (19-23°C) (night) 64-66°F (18-19°C)	5.5-6.2 pH 1.2-1.5 mmhos/cm	Day Neutral	306 Pack, 1 (ppp), 6-7 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 6-7 (weeks), Spring 5"/6"/1 Gallon, 3 (ppp), 7-8 (weeks), Spring	
COLORGRASS CAREX <i>Carex buchananii</i> <b>Red Rooster</b>	288	(day) 66-74°F (19-23°C) (night) 64-66°F (18-19°C)	5.5-6.2 pH 1.2-1.5 mmhos/cm	Day Neutral	306 Pack, 1 (ppp), 8-9 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 8-9 (weeks), Spring 5"/6"/1 Gallon, 3 (ppp), 9-10 (weeks), Spring	
COLORGRASS CORYNEPHORUS <i>Corynephorus canescens</i> <b>Spiky Blue</b>	288	(day) 66-74°F (19-23°C) (night) 64-66°F (18-19°C)	5.5-6.2 pH 1.2-1.5 mmhos/cm	Day Neutral	306 Pack, 1 (ppp), 6-7 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 6-7 (weeks), Spring 5"/6"/1 Gallon, 3 (ppp), 7-8 (weeks), Spring	
COLORGRASS FESTUCA <i>Festuca cinerea (Festuca glauca)</i> <b>Festina</b>	288	(day) 66-74°F (19-23°C) (night) 64-66°F (18-19°C)	5.5-6.2 pH 1.2-1.5 mmhos/cm	Day Neutral	306 Pack, 1 (ppp), 6-7 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 6-7 (weeks), Spring 5"/6"/1 Gallon, 3 (ppp), 7-8 (weeks), Spring	
COLORGRASS ISOLEPIS <i>Isolepis cernua</i> <b>Live Wire</b>	288	(day) 66-74°F (19-23°C) (night) 64-66°F (18-19°C)	5.5-6.2 pH 1.2-1.5 mmhos/cm	Day Neutral	306 Pack, 1 (ppp), 6-7 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 6-7 (weeks), Spring 5"/6"/1 Gallon, 3 (ppp), 6-7 (weeks), Spring	Sow uncovered at 65°F (18°C) for fastest and most uniform germination; prefers moist soil.
COLORGRASS JUNCUS <i>Juncus inflexus</i> <b>Blue Arrows</b>	288	(day) 66-74°F (19-23°C) (night) 64-66°F (18-19°C)	5.5-6.2 pH 1.2-1.5 mmhos/cm	Day Neutral	306 Pack, 1 (ppp), 6-7 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 6-7 (weeks), Spring 5"/6"/1 Gallon, 1-3 (ppp), 7-8 (weeks), Spring	
COLORGRASS JUNCUS <i>Juncus tenuis</i> <b>Blue Dart</b>	288	(day) 62-74°F (17-23°C) (night) 59-64°F (15-18°C)	5.5-6.2 pH 1.2-1.5 mmhos/cm	Day Neutral	306 Pack, 1 (ppp), 6-7 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 6-7 (weeks), Spring 5"/6"/1 Gallon, 1-3 (ppp), 7-8 (weeks), Spring	Excellent substitute for Draecena Spike.
COLORGRASS JUNCUS <i>Juncus pallidus</i> <b>Javelin</b>	288	(day) 62-74°F (17-23°C) (night) 59-64°F (15-18°C)	5.5-6.2 pH 1.2-1.5 mmhos/cm	Day Neutral	306 Pack, 1 (ppp), 5-6 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 5-6 (weeks), Spring 5"/6"/1 Gallon, 1-3 (ppp), 6-7 (weeks), Spring	To prevent leaf bending, Bonzi 30 ppm spray can be used.
COLORGRASS JUNCUS <i>Juncus ensifolius</i> <b>Starhead</b>	288	(day) 66-74°F (19-23°C) (night) 64-66°F (18-19°C)	5.5-6.2 pH 1.2-1.5 mmhos/cm	Day Neutral	306 Pack, 1 (ppp), 7-8 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 7-8 (weeks), Spring 5"/6"/1 Gallon, 3 (ppp), 8-9 (weeks), Spring	
COLORGRASS KOELERIA <i>Koeleria glauca</i> <b>Coolio</b>	288	(day) 66-74°F (19-23°C) (night) 64-66°F (18-19°C)	5.5-6.2 pH 1.2-1.5 mmhos/cm	Day Neutral		
COLORGRASS LUZULA <i>Luzula nivea</i> <b>Lucius</b>	288	(day) 66-74°F (19-23°C) (night) 64-66°F (18-19°C)	5.5-6.2 pH 1.2-1.5 mmhos/cm	Day Neutral	306 Pack, 1 (ppp), 8-9 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 8-9 (weeks), Spring 5"/6"/1 Gallon, 3 (ppp), 9-10 (weeks), Spring	Make sure plants don't get too wet.
COLORGRASS STIPA <i>Stipa tenuissima</i> <b>Pony Tails</b>	288	(day) 62-74°F (17-23°C) (night) 59-64°F (15-18°C)	5.5-6.2 pH 1.2-1.5 mmhos/cm	Day Neutral	306 Pack, 1 (ppp), 6-7 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 6-7 (weeks), Spring 5"/6"/1 Gallon, 3 (ppp), 6-7 (weeks), Spring	Grow relative dry and with low to moderate fertilization, to have optimal upright growth.
COSMOS <i>Cosmos bipinnatus</i> <b>Antiquity</b>	288	(day) 65-75°F (18-24°C) (night) 61-65°F (16-18°C)	5.8-6.2 pH 1.0-1.5 mmhos/cm	Facultative Short Day Cosmos flowers faster under short days. Daylength extension in the plug stage to more than 12 hours daylength may be used to prevent premature flowering.	4"/4.5"/Quart, 1 (ppp), 6-7 (weeks), Spring	
COSMOS <i>Cosmos bipinnatus</i> <b>Sonata Series</b>	288	(day) 70-80°F (21-27°C) (night) 70-75°F (21-24°C)	5.8-6.2 pH 1.0-1.5 mmhos/cm	Facultative Short Day Cosmos flowers faster under short days. Daylength extension in the plug stage to more than 12 hours daylength may be used to prevent premature flowering.	4"/4.5"/Quart, 1 (ppp), 6-7 (weeks), Spring 5"/6"/1 Gallon, 1 (ppp), 7-8 (weeks), Spring	
CROSSANDRA <i>Crossandra infundibuliformis</i> <b>Tropic Series</b>	288	(day) 75-80°F (24-27°C) (night) 68-75°F (20-24°C)	5.8-6.5 pH 1.2-1.5 mmhos/cm	Day Neutral	4"/4.5"/Quart, 1 (ppp), 10-11 (weeks), Spring 5"/6"/1 Gallon, 3 (ppp), 10-11 (weeks), Spring	Best in tropical and semi-tropical climates. For cooler (Northern) growing areas, add 3 weeks to crop time or grow for Summer sales.
CUPHEA <i>Cuphea ignea</i> <b>Dynamite</b>	288	(day) 70-75°F (21-24°C) (night) 65-68°F (18-20°C)	5.8-6.2 pH 1.2-1.5 mmhos/cm	Day Neutral	4"/4.5"/Quart, 1 (ppp), 6-7 (weeks), Spring	No pinching required. Well-suited to solo and mixed containers. Also works in indoor plant programs.
CYCLAMEN <i>Cyclamen persicum</i> <b>Dreamscape F<sub>1</sub> Series</b>	288 128	(day) 62-64°F (17-18°C) (night) 54-59°F (12-15°C)	5.6-5.8 pH 0.8-1.2 mmhos/cm	Day Neutral	5"/6"/1 Gallon, 1 (ppp), 18-20 (weeks), Autumn	Use of 80-72 cell plugs will reduce crop time after potting for around 6-7 weeks.
DAHLIA <i>Dahlia x hybrida</i> <b>Figaro® Series</b>	288	(day) 52-60°F (11-16°C) (night) 52-60°F (11-16°C)	5.8-6.2 pH 0.75-1.0 mmhos/cm	Obligate Long Day Dahlias require 14-hour or longer days to grow and flower properly. Provide daylength extension if needed.	306 Pack, 1 (ppp), 5-6 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 5-6 (weeks), Spring	Very responsive to B-Nine/Alar. Also responsive to day/night temperature differential (DIF), and plants are shorter with a negative DIF.

CLASS/SERIES	RECOMMENDED PLUG SIZE	GROWING ON TEMPERATURE (DAYS/NIGHTS)	TARGET MEDIA PH/EC	DAYLENGTH	FINISHING PROGRAMS	KEY TIPS
DESCHAMPSIA <i>Deschampsia elongata</i> <b>Zephyr</b>	288	(day) 66-74°F (19-23°C) (night) 64-66°F (18-19°C)	5.5-6.2 pH 1.2-1.5 mmhos/cm	Day Neutral	306 Pack, 1 (ppp), 5-7 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 6-7 (weeks), Spring 5"/6"/1 Gallon, 1 (ppp), 6-7 (weeks), Spring	Will perform better if grown in containers. Will dry out very easily.
DIANTHUS <i>Dianthus chinensis x barbatus</i> <b>Corona F1 Series</b>	288	(day) 60-72°F (16-22°C) (night) 50-60°F (10-16°C)	5.8-6.2 pH 1.5-2.0 mmhos/cm	Facultative Long Day	Cell Pack, 1 (ppp), 6-8 (weeks), Late Spring, PGR paclobutrazol 10 ppm Spray 4"/4.5"/Quart, 1 (ppp), 6-8 (weeks), Late Spring, PGR paclobutrazol 10 ppm Spray	Grows best under high light intensity and cool nights. Under low DLI, crop time will be delayed.
DIANTHUS <i>Dianthus barbatus</i> <b>Dash F1 Series</b>	288	(day) 65-75°F (18-24°C) (night) 60°F (16°C)	5.8-6.2 pH 1.5-2.0 mmhos/cm	Facultative Long Day	4"/4.5"/Quart, 1 (ppp), 9-10 (weeks), Summer, PGR paclobutrazol 20 ppm Spray 5"/6"/1 Gallon, 1-3 (ppp), 9-10 (weeks), Summer, PGR paclobutrazol 20 ppm Spray 4"/4.5"/Quart, 1 (ppp), 11-12 (weeks), Autumn, PGR paclobutrazol 20 ppm Spray 5"/6"/1 Gallon, 1-3 (ppp), 11-12 (weeks), Autumn, PGR paclobutrazol 20 ppm Spray	Dash dianthus has a naturally compact plant habit and good basal branching when compared to other barbatus-type dianthus, making it more suitable for container production. Provide 65 to 75°F (18 to 24°C) day temperatures and 60°F (15°C) night temperatures for the first 2 weeks of greenhouse production to establish the plants. Finish at 60 to 70°F (15 to 21°C) days, with nights in the low 50°Fs (11 to 12°C). Lower temperatures can be tolerated as plants mature.
DIANTHUS <i>Dianthus barbatus interspecific</i> <b>Dynasty F1 Series</b>	288	(day) 60-72°F (16-22°C) (night) 50-60°F (10-16°C)	5.8-6.2 pH 1.5-2.0 mmhos/cm	Facultative Long Day	306 Pack, 1 (ppp), 8-9 (weeks), Late Spring, PGR paclobutrazol 15-20 ppm Spray 4"/4.5"/Quart, 1 (ppp), 8-9 (weeks), Late Spring, PGR paclobutrazol 15-20 ppm Spray 5"/6"/1 Gallon, 1-3 (ppp), 8-9 (weeks), Late Spring, PGR paclobutrazol 15-20 ppm Spray	
DIANTHUS <i>Dianthus chinensis x barbatus</i> <b>Floral Lace F1 Series</b>	288	(day) 60-72°F (16-22°C) (night) 50-60°F (10-16°C)	5.8-6.2 pH 1.5-2.0 mmhos/cm	Facultative Long Day	Cell Pack, 1 (ppp), 4-5 (weeks), Late Spring, PGR paclobutrazol 15-20 ppm Spray 4"/4.5"/Quart, 1 (ppp), 4-5 (weeks), Late Spring, PGR paclobutrazol 15-20 ppm Spray	Height can be controlled by withholding fertilizer, especially phosphorus and ammonium-form nitrogen. Dianthus are responsive to day/night temperature differential (DIF), and are shorter with a negative DIF.
DIANTHUS <i>Dianthus chinensis x barbatus</i> <b>Ideal Select F1 Series</b>	288	(day) 60-72°F (16-22°C) (night) 50-60°F (10-16°C)	5.8-6.2 pH 1.5-2.0 mmhos/cm	Facultative Long Day	Cell Pack, 1 (ppp), 4-5 (weeks), Late Spring, PGR paclobutrazol 15-20 ppm Spray 4"/4.5"/Quart, 1 (ppp), 4-5 (weeks), Late Spring, PGR paclobutrazol 15-20 ppm Spray 5"/6"/1 Gallon, 3 (ppp), 4-5 (weeks), Late Spring, PGR paclobutrazol 15-20 ppm Spray	
DIANTHUS (INTERSPECIFIC) <i>Dianthus barbatus interspecific</i> <b>Jolt F1 Series</b>	288	(day) 65-75°F (18-24°C) (night) 60°F (16°C)	5.8-6.2 pH 1.5-2.0 mmhos/cm	Facultative Long Day Interspecific Dianthus Jolt is a facultative/quantitative long day plant and can flower year-round, but it will take slightly longer to flower under short days than long days.	4"/4.5"/Quart, 1 (ppp), 14-18 (weeks), Spring, PGR paclobutrazol 20 ppm Spray 5"/6"/1 Gallon, 1-3 (ppp), 14-18 (weeks), Spring, PGR paclobutrazol 20 ppm Spray 4"/4.5"/Quart, 1 (ppp), 11-13 (weeks), Summer, PGR paclobutrazol 20 ppm Spray 5"/6"/1 Gallon, 1-3 (ppp), 11-13 (weeks), Summer, PGR paclobutrazol 20 ppm Spray	Temperature and light intensity have greater impact on flowering, especially during Winter and early Spring. Jolt will benefit from being grown under high light levels and is a facultative/quantitative long-day plant. It can flower under different daylengths, but will take slightly longer to flower under short days than long days. A small percentage (up to 3%) of early off-types can be observed with Jolt dianthus at 4 to 5 weeks from sowing. These plants should be removed/discarded at transplant.
DICHONDRA <i>Dichondra repens</i> <b>Emerald Falls</b>	288	(day) 65-75°F (18-24°C) (night) 62-65°F (17-18°C)	5.5-6.5 pH 1.2-1.5 mmhos/cm		4"/4.5"/Quart, 1 (ppp), 7-8 (weeks), Spring, PGR daminozide/chlormequat chloride tank mix 5,000/1,000 ppm Spray 5"/6"/1 Gallon, 3 (ppp), 7-8 (weeks), Spring, PGR daminozide/chlormequat chloride tank mix 5,000/1,000 ppm Spray 12" Pot or HB/5 Gallon, 5 (ppp), 7-9 (weeks), Spring, PGR daminozide/chlormequat chloride tank mix 5,000/1,000 ppm Spray	Grows best in warm and dry conditions. Use light feed. Rinse foliage after feeding to avoid salt burn.
DICHONDRA <i>Dichondra argentea</i> <b>Silver Falls</b>	288	(day) 65-75°F (18-24°C) (night) 62-65°F (17-18°C)	5.5-6.5 pH 1.2-1.5 mmhos/cm		4"/4.5"/Quart, 1 (ppp), 6-7 (weeks), Spring, PGR daminozide/chlormequat chloride tank mix 5,000/1,000 ppm Spray 5"/6"/1 Gallon, 3 (ppp), 7-8 (weeks), Spring, PGR daminozide/chlormequat chloride tank mix 5,000/1,000 ppm Spray 12" Pot or HB/5 Gallon, 5 (ppp), 7-9 (weeks), Spring, PGR daminozide/chlormequat chloride tank mix 5,000/1,000 ppm Spray	Grows best in warm and dry conditions. Use light feed. Rinse foliage after feeding to avoid salt burn. Higher light levels result in foliage that is more silver in colour and shorter internodes.
DUSTY MILLER MARITIMA <i>Senecio cineraria</i> <b>Silverdust</b>	288	(day) 60-65°F (16-18°C) (night) 55-58°F (13-14°C)	5.5-5.8 pH 1.2-1.5 mmhos/cm		4"/4.5"/Quart, 1 (ppp), 6-8 (weeks), Spring, PGR daminozide 5,000 ppm Spray 5"/6"/1 Gallon, 3 (ppp), 6-8 (weeks), Spring, PGR daminozide 5,000 ppm Spray	Pinching not recommended. For height control, use daminozide as needed.
ERYSIMUM <i>Erysimum species</i> <b>Citrona® Series</b>	288	(day) 65-70°F (18-21°C) (night) 55-60°F (13-16°C)	5.8-6.2 pH 1.5-2.0 mmhos/cm	Facultative Long Day	4"/4.5"/Quart, 1 (ppp), 7-8 (weeks), Early Spring, PGR daminozide/chlormequat chloride tank mix 2,500/1,000 ppm Spray 4"/4.5"/Quart, 1 (ppp), 5 (weeks), Autumn, PGR paclobutrazol 20 ppm Spray	Erysimum performs well when grown under cooler temperatures.
EUPHORBIA <i>Euphorbia graminea</i> <b>Glitz F1</b>	288 128	(day) 65-77°F (18-25°C) (night) 65-68°F (18-20°C)	5.8-6.2 pH 1.5-2.0 mmhos/cm	Day Neutral	4"/4.5"/Quart, 1 (ppp), 5-8 (weeks), Spring, PGR daminozide 2,500-5,000 ppm Spray 5"/6"/1 Gallon, 1-2 (ppp), 5-8 (weeks), Spring, PGR daminozide 2,500-5,000 ppm Spray 10" Pot or HB/3 Gallon, 3 (ppp), 6-8 (weeks), Spring, PGR daminozide 2,500-5,000 ppm Spray	Do not grow plant at temperature below 62°F (16°C). Stretched plugs can be planted deep for better habit management. Pinching is not necessary. If starting with a daminozide spray for habit control, consider a paclobutrazol spray or low rate drench to finish. Daminozide may delay full flowering, but is helpful early on in developing good branching. Warmer temperatures and higher light will significantly reduce crop times.
FUSEABLES® <i>Sutera cordata</i> <b>Bacopa Series</b>	128 288	(day) 59-76°F (15-24°C) (night) 55-60°F (13-16°C)	5.8-6.2 pH 1.2-1.5 mmhos/cm	Day Neutral	5"/6"/1 Gallon, 1 (ppp), 6-7 (weeks), Spring, PGR daminozide 1,000-1,500 ppm Spray 8"/2 Gallon, 3 (ppp), 6-7 (weeks), Spring, PGR daminozide 1,000-1,500 ppm Spray 10" Pot or HB/3 Gallon, 4 (ppp), 6-7 (weeks), Spring, PGR daminozide 1,000-1,500 ppm Spray 12" Pot or HB/5 Gallon, 4 (ppp), 6-7 (weeks), Spring, PGR daminozide 1,000-1,500 ppm Spray	Avoid excessive watering and drought. Do not let plants wilt, as this will result in bud drop.

CLASS/SERIES	RECOMMENDED PLUG SIZE	GROWING ON TEMPERATURE (DAYS/NIGHTS)	TARGET MEDIA PH/EC	DAYLENGTH	FINISHING PROGRAMS	KEY TIPS
FUSEABLES® <i>Calibrachoa hybrid</i> <b>Calibrachoa Series</b>	128 288	(day) 64-75°F (18-24°C) (night) 55-64°F (13-18°C)	5.5-5.8 pH 1.5-2.0 mmhos/cm	Facultative Long Day	5"/6"/1 Gallon, 1 (ppp), 8-9 (weeks), Spring, PGR paclobutrazol 2-3 ppm Drench 8"/2 Gallon, 1 (ppp), 8-9 (weeks), Spring, PGR paclobutrazol 2-3 ppm Drench 10" Pot or HB/3 Gallon, 1-3 (ppp), 8-11 (weeks), Spring, PGR paclobutrazol 2-3 ppm Drench 12" Pot or HB/5 Gallon, 3 (ppp), 10-11 (weeks), Spring, PGR paclobutrazol 2-3 ppm Drench	Juvenility ends at 6 leaves; at that point, growing under 14 hours for 4 weeks induces plants to flower. See GrowerFacts for detailed PGR program and LIP recommendations.
FUSEABLES® <i>Solenostemon scutellarioides</i> <b>Coleus Series</b>	128 288	(day) 65-76°F (18-24°C) (night) 59-64°F (15-18°C)	5.5-6.0 pH 0.7-1.2 mmhos/cm	Facultative Short Day	5"/6"/1 Gallon, 1 (ppp), 5-7 (weeks), Spring, PGR daminozide 2,500-5,000 ppm Spray 8"/2 Gallon, 1 (ppp), 5-7 (weeks), Spring, PGR daminozide 2,500-5,000 ppm Spray 10" Pot or HB/3 Gallon, 1-3 (ppp), 5-7 (weeks), Spring, PGR daminozide 2,500-5,000 ppm Spray 12" Pot or HB/5 Gallon, 4-5 (ppp), 5-7 (weeks), Spring, PGR daminozide 2,500-5,000 ppm Spray	Coleus are responsive to day/night DIF, and are shorter with a negative DIF. Crowding can result in excessive internode elongation. Ethephon can be applied at 300 ppm 2 to 3 weeks after transplant to promote branching and delay flowering.
FUSEABLES® <i>Viola x wittrockiana</i> <b>Pansy F<sub>1</sub> Series</b>	128 288	(day) 62-70°F (17-21°C) (night) 55-60°F (13-16°C)	5.5-5.8 pH 1.2-1.5 mmhos/cm	Facultative Long Day	5"/6"/1 Gallon, 1-3 (ppp), 6-7 (weeks), Early Spring, PGR daminozide/chlormequat chloride tank mix 2,500-250 ppm Spray 10" Pot or HB/3 Gallon, 4 (ppp), 9-10 (weeks), Early Spring, PGR daminozide/chlormequat chloride tank mix 2,500-250 ppm Spray 5"/6"/1 Gallon, 1-3 (ppp), 5-6 (weeks), Autumn, PGR daminozide/chlormequat chloride tank mix 5,000-500 ppm Spray 10" Pot or HB/3 Gallon, 4 (ppp), 7-8 (weeks), Autumn, PGR daminozide/chlormequat chloride tank mix 5,000-500 ppm Spray	In heat of Autumn production, a paclobutrazol drench of 0.1 to 0.125 can be used once foliage is covering soil. Consult Cool Wave Production Handbook for more detailed information on scheduling for Autumn and Spring programs and variety-specific PGR information.
FUSEABLES® <i>Petunia x hybrida</i> <b>Petunia Series</b>	128 288	(day) 61-75°F (16-24°C) (night) 57-65°F (14-18°C)	5.5-6.2 pH 1.2-1.5 mmhos/cm	Facultative Long Day	5"/6"/1 Gallon, 1 (ppp), 9-11 (weeks), Spring, PGR daminozide 5,000 ppm Spray 8"/2 Gallon, 1-3 (ppp), 9-11 (weeks), Spring, PGR daminozide 5,000 ppm Spray 10" Pot or HB/3 Gallon, 1-3 (ppp), 10-12 (weeks), Spring, PGR daminozide 5,000 ppm Spray 12" Pot or HB/5 Gallon, 4 (ppp), 10-12 (weeks), Spring, PGR daminozide 5,000 ppm Spray 5"/6"/1 Gallon, 1 (ppp), 7-9 (weeks), Summer, PGR daminozide 5,000 ppm Spray 8"/2 Gallon, 1-3 (ppp), 7-9 (weeks), Summer, PGR daminozide 5,000 ppm Spray 10" Pot or HB/3 Gallon, 1-3 (ppp), 8-10 (weeks), Summer, PGR daminozide 5,000 ppm Spray 12" Pot or HB/5 Gallon, 4 (ppp), 8-10 (weeks), Summer, PGR daminozide 5,000 ppm Spray	Can use the same PGR 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. See GrowerFacts for additional culture information.
FUSEABLES® <i>Petunia hybrida, Suteira cordata</i> <b>Petunia-Bacopa Series</b>	128 288	(day) 61-75°F (16-24°C) (night) 57-65°F (14-18°C)	5.5-6.2 pH 1.2-1.5 mmhos/cm		5"/6"/1 Gallon, 1 (ppp), 8-11 (weeks), Spring, PGR paclobutrazol 2-4 ppm Drench 8"/2 Gallon, 1 (ppp), 8-11 (weeks), Spring, PGR paclobutrazol 2-4 ppm Drench 10" Pot or HB/3 Gallon, 1-3 (ppp), 10-12 (weeks), Spring, PGR paclobutrazol 2-4 ppm Drench 12" Pot or HB/5 Gallon, 4 (ppp), 10-12 (weeks), Spring, PGR paclobutrazol 2-4 ppm Drench 5"/6"/1 Gallon, 1 (ppp), 7-9 (weeks), Summer, PGR paclobutrazol 2-4 ppm Drench 8"/2 Gallon, 1 (ppp), 7-9 (weeks), Summer, PGR paclobutrazol 2-4 ppm Drench 10" Pot or HB/3 Gallon, 1-3 (ppp), 8-10 (weeks), Summer, PGR paclobutrazol 2-4 ppm Drench 12" Pot or HB/5 Gallon, 4 (ppp), 8-10 (weeks), Summer, PGR paclobutrazol 2-4 ppm Drench	Do not use B-Nine/Alar or Topflor for height control, as they will stunt bacopa.
FUSEABLES® <i>Juncus inflexus - Juncus effusus spiralis</i> <b>Twisted Arrows</b>	128 288	(day) 62-73°F (17-23°C) (night) 59-64°F (15-18°C)	5.5-6.2 pH 1.2-1.5 mmhos/cm		306 Pack, 1 (ppp), 6-7 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 7-8 (weeks), Spring 5"/6"/1 Gallon, 1-3 (ppp), 7-8 (weeks), Spring	
FUSEABLES® <i>Juncus tenuis - Juncus effusus spiralis</i> <b>Twisted Dart</b>	128 288	(day) 62-73°F (17-23°C) (night) 59-64°F (15-18°C)	5.5-6.2 pH 1.2-1.5 mmhos/cm		306 Pack, 1 (ppp), 6-7 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 7-8 (weeks), Spring 5"/6"/1 Gallon, 1-3 (ppp), 7-8 (weeks), Spring	
FUSEABLES® <i>Viola cornuta</i> <b>Viola Series</b>	128 288	(day) 60-65°F (16-18°C) (night) 50-55°F (10-13°C)	5.6-5.8 pH 1.2-1.5 mmhos/cm	Facultative Long Day	5"/6"/1 Gallon, 1 (ppp), 6-8 (weeks), Early Spring, PGR daminozide 2,500 ppm Spray 10" Pot or HB/3 Gallon, 3-4 (ppp), 6-8 (weeks), Early Spring, PGR daminozide 2,500 ppm Spray 12" Pot or HB/5 Gallon, 3-5 (ppp), 6-8 (weeks), Early Spring, PGR daminozide 2,500 ppm Spray 5"/6"/1 Gallon, 1 (ppp), 5-7 (weeks), Autumn, PGR ancymidol 5-10 ppm Spray 10" Pot or HB/3 Gallon, 3-4 (ppp), 5-7 (weeks), Autumn, PGR ancymidol 5-10 ppm Spray 12" Pot or HB/5 Gallon, 3-5 (ppp), 5-7 (weeks), Autumn, PGR ancymidol 5-10 ppm Spray	PGR use is dependent on day/night temperatures.

CLASS/SERIES	RECOMMENDED PLUG SIZE	GROWING ON TEMPERATURE (DAYS/NIGHTS)	TARGET MEDIA PH/EC	DAYLENGTH	FINISHING PROGRAMS	KEY TIPS
FUSEABLES® <i>Viola cornuta, Lobularia maritima</i> <b>Viola-Alyssum Series</b>	128 288	(day) 60-68°F (16-20°C) (night) 50-60°F (10-16°C)	5.6-5.8 pH 1.2-1.5 mmhos/cm		5"/6"/1 Gallon, 1 (ppp), 5-7 (weeks), Spring 8"/2 Gallon, 1 (ppp), 5-7 (weeks), Spring 10" Pot or HB/3 Gallon, 4 (ppp), 5-7 (weeks), Spring 12" Pot or HB/5 Gallon, 4-5 (ppp), 5-7 (weeks), Spring	
GAZANIA <i>Gazania rigens</i> <b>New Day® F<sub>1</sub> Series</b>	288	(day) 65-70°F (18-21°C) (night) 55-60°F (13-16°C)	5.8-6.2 pH 1.5-2.0 mmhos/cm	Facultative Long Day	306 Pack, 1 (ppp), 8-9 (weeks), Late Spring, PGR daminozide 3,500 ppm Spray 5"/6"/1 Gallon, 3 (ppp), 8-9 (weeks), Late Spring, PGR daminozide 3,500 ppm Spray 306 Pack, 1 (ppp), 7-8 (weeks), Summer, PGR daminozide 3,500 ppm Spray 5"/6"/1 Gallon, 3 (ppp), 7-8 (weeks), Summer, PGR daminozide 3,500 ppm Spray	Crop time can be influenced by light levels; i.e., when grown in areas with low light levels or during period of low light intensity, crop time could be approx. 3 weeks longer. Plant Growth Regulators: If needed, use B-Nine/Alar (daminozide) at 3,500 ppm (4.2 g/l of 85% formulation or 5.6 g/l of 64% formulation) to tone the crop. One application at 2 to 3 weeks after transplant will be sufficient.
GAZANIA TETRAPLOID <i>Gazania rigens</i> <b>Sunshine Series</b>	406	(day) 65-70°F (18-21°C) (night) 55-60°F (13-16°C)	5.8-6.2 pH 1.5-2.0 mmhos/cm	Facultative Long Day	5"/6"/1 Gallon, 3 (ppp), 9-10 (weeks), Early Spring, PGR daminozide 3,500 ppm Spray 5"/6"/1 Gallon, 3 (ppp), 8-9 (weeks), Summer, PGR daminozide 3,500 ppm Spray	Crop time can be influenced by light levels; i.e., when grown in areas with low light levels or during period of low light intensity, crop time could be approx. 3 weeks longer. Plant Growth Regulators: If needed, use B-Nine/Alar (daminozide) at 3,500 ppm (4.2 g/l of 85% formulation or 5.6 g/l of 64% formulation) to tone the crop. One application at 2 to 3 weeks after transplant will be sufficient.
GERANIUM (IVY) <i>Pelargonium x peltatum</i> <b>Summer Showers Series</b>	288	(day) 70-75°F (21-24°C) (night) 60-65°F (16-18°C)	6.0-6.2 pH 1.2 mmhos/cm	Day Neutral	4"/4.5"/Quart, 1 (ppp), 11-12 (weeks), Spring, PGR chlormequat chloride 300-500 ppm Spray 10" Pot or HB/3 Gallon, 3 (ppp), 13-15 (weeks), Spring, PGR chlormequat chloride 300-500 ppm Spray	This is a light-accumulating product. Therefore, more light received and higher mols will help to make flowering faster. 15 to 20 mol·m <sup>-2</sup> ·d <sup>-1</sup> is a good target.
GOMPHRENA <i>Gomphrena pulchella</i> <b>Fireworks</b>	406	(day) 65-75°F (18-24°C) (night) 63-66°F (17-19°C)	5.8-6.2 pH 1.5-2.0 mmhos/cm	Day Neutral	5"/6"/1 Gallon, 1 (ppp), 8-9 (weeks), Spring, PGR paclobutrazol 4-10 ppm Drench 5"/6"/1 Gallon, 2-3 (ppp), 8-9 (weeks), Spring, PGR paclobutrazol 4-10 ppm Drench	May be grown cooler (50°F/10°C minimum) with additional 2 to 3 weeks crop time. High light, spacing and cooler temperatures will reduce stretching. A paclobutrazol drench at 4 to 10 ppm, 2 to 3 weeks after transplant, is commonly effective in controlling stretch. Paclobutrazol sprays may follow the drench to maintain plant structure.
HELENIUM <i>Helenium amarum</i> <b>Dakota Gold</b>	288	(day) 65-70°F (18-21°C) (night) 64-66°F (18-19°C)	5.5-6.5 pH 1.5-2.0 mmhos/cm	Facultative Long Day Plants will flower regardless of daylength, but the growing habit is quite related to daylength. Plants grow slowly when grown under daylengths shorter than 12 hours and become very flat or even rosette when grown under daylengths shorter than 10 hours. Growing plants under long days (12 hours or more) is recommended.	306 Pack, 1 (ppp), 5-7 (weeks), Spring, PGR daminozide 5,000 ppm Spray 4"/4.5"/Quart, 1 (ppp), 5-7 (weeks), Spring, PGR daminozide 5,000 ppm Spray 5"/6"/1 Gallon, 1 (ppp), 6-8 (weeks), Spring, PGR daminozide 5,000 ppm Spray	
HELICHRYSUM <i>Helichrysum microphyllum (Plectostachys serphyllifolia)</i> <b>Silver Mist</b>	288	(day) 65-75°F (18-24°C) (night) 62-65°F (17-18°C)	5.5-6.5 pH 1.5-2.0 mmhos/cm		306 Pack, 1 (ppp), 8-9 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 8-9 (weeks), Spring 5"/6"/1 Gallon, 3 (ppp), 9-10 (weeks), Spring	Do not overwater and avoid watering plants late in the day, as constant wet foliage may make the plants susceptible to Botrytis. Does not require pinching.
HIBISCUS <i>Hibiscus acetosella</i> <b>Mahogany Splendor</b>	288	(day) 65-70°F (18-21°C) (night) 62-67°F (17-19°C)	5.8-6.2 pH 1.2-1.5 mmhos/cm	Flower initiation occurs with daylength of 12 hours or shorter.	4"/4.5"/Quart, 1 (ppp), 5-6 (weeks), Spring, PGR daminozide/chlormequat chloride tank mix 2,500/300 ppm Spray 4"/4.5"/Quart, 1 (ppp), 5-6 (weeks), Spring, PGR paclobutrazol 5-10 ppm Spray 5"/6"/1 Gallon, 1 (ppp), 6-8 (weeks), Spring, PGR daminozide/chlormequat chloride tank mix 2,500/300 ppm Spray 5"/6"/1 Gallon, 1 (ppp), 6-8 (weeks), Spring, PGR paclobutrazol 5-10 ppm Spray 8"/2 Gallon, 1 (ppp), 6-8 (weeks), Spring, PGR daminozide/chlormequat chloride tank mix 2,500/300 ppm Spray 8"/2 Gallon, 1 (ppp), 6-8 (weeks), Spring, PGR paclobutrazol 5-10 ppm Spray	
IMPATIENS <i>Impatiens walleriana</i> <b>Dazzler® F<sub>1</sub> Series</b>	288	(day) 70-75°F (21-24°C) (night) 62-68°F (17-20°C)	6.2-6.5 pH 0.75-1.0 mmhos/cm	Day Neutral	Cell Pack, 1 (ppp), 3-4 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 4-5 (weeks), Spring 10" Pot or HB/3 Gallon, 3-5 (ppp), 8-10 (weeks), Spring	Impatiens will respond to daminozide, paclobutrazol and uniconazol. Monitoring of water and fertilization can help with controlling plant growth and vigour.
IMPATIENS <i>Impatiens walleriana</i> <b>Impreza® F<sub>1</sub> Series</b>	288	(day) 70-75°F (21-24°C) (night) 62-68°F (17-20°C)	6.2-6.5 pH 0.75-1.0 mmhos/cm	Day Neutral	Cell Pack, 1 (ppp), 3-4 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 4-5 (weeks), Spring 10" Pot or HB/3 Gallon, 3-5 (ppp), 8-10 (weeks), Spring	Impatiens will respond to daminozide, paclobutrazol and uniconazol. Monitoring of water and fertilization can help with controlling plant growth and vigour.
IMPATIENS <i>Impatiens walleriana</i> <b>Super Elfin® F<sub>1</sub> Series</b>	288	(day) 70-75°F (21-24°C) (night) 62-68°F (17-20°C)	6.2-6.5 pH 0.75-1.0 mmhos/cm	Day Neutral	Cell Pack, 1 (ppp), 3-4 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 4-5 (weeks), Spring 10" Pot or HB/3 Gallon, 3-5 (ppp), 8-10 (weeks), Spring	Impatiens will respond to daminozide, paclobutrazol and uniconazol. Monitoring of water and fertilization can help with controlling plant growth and vigour.
IMPATIENS <i>Impatiens walleriana</i> <b>Super Elfin® XP F<sub>1</sub> Series</b>	288	(day) 70-75°F (21-24°C) (night) 62-68°F (17-20°C)	6.2-6.5 pH 0.75-1.0 mmhos/cm	Day Neutral	Cell Pack, 1 (ppp), 3-4 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 4-5 (weeks), Spring 10" Pot or HB/3 Gallon, 3-5 (ppp), 8-10 (weeks), Spring	Impatiens will respond to daminozide, paclobutrazol and uniconazol. Monitoring of water and fertilization can help with controlling plant growth and vigour.
IMPATIENS (NEW GUINEA) <i>Impatiens hawkeri</i> <b>Divine F<sub>1</sub> Series</b>	288	(day) 68-76°F (20-24°C) (night) 65-68°F (18-20°C)	6.2-6.5 pH 0.75-1.0 mmhos/cm	Day Neutral	306 Pack, 1 (ppp), 6-7 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 6-7 (weeks), Spring 5"/6"/1 Gallon, 1-2 (ppp), 8-9 (weeks), Spring	Feed plants moderately. Overfeeding leads to lush, leafy plants at the expense of flowers. 1 or 2 applications of paclobutrazol spray at 2 to 5 ppm can control height without reducing flower size. A paclobutrazol drench at 0.125 to 0.25 ppm is also effective, but may stunt less vigorous varieties (See Table 1 for vigour ratings). Start with low rates and adjust as necessary. Negative DIF and DROP work well for New Guinea Impatiens height control. Florel is not needed to promote branching. High vigour: Blue Pearl, Orange Bronze Leaf, Scarlet Bronze Leaf Mid vigour: Lavender Improved, Orange, White, Orchid, Lipstick, Red Low vigour: Violet, Pink, Burgundy

CLASS/SERIES	RECOMMENDED PLUG SIZE	GROWING ON TEMPERATURE (DAYS/NIGHTS)	TARGET MEDIA PH/EC	DAYLENGTH	FINISHING PROGRAMS	KEY TIPS
IREesine <i>Iresine herbstii</i> <b>Purple Lady</b>	288	(day) 65-75°F (18-24°C) (night) 62-65°F (17-18°C)	5.5-6.5 pH 1.2-1.5 mmhos/cm		<b>306 Pack</b> , 1 (ppp), 5-6 (weeks), Spring <b>4"/4.5"/Quart</b> , 1 (ppp), 5-6 (weeks), Spring <b>10" Pot or HB/3 Gallon</b> , 3 (ppp), 6-7 (weeks), Spring <b>12" Pot or HB/5 Gallon</b> , 4-5 (ppp), 6-7 (weeks), Spring	Reddish foliage indicates plants need more feed. High light, especially with low humidity, results in puckered foliage.
ISOTOMA <i>Isotoma hybrida</i> <b>Gemini F<sub>1</sub> Series</b>	288	(day) 60-66°F (16-19°C) (night) 54-57°F (12-14°C)	5.8-6.2 pH 1.5-2.0 mmhos/cm	Facultative Long Day	<b>306 Pack</b> , 1 (ppp), 9-10 (weeks), Spring, <b>PGR</b> daminozide 2,500-3,500 ppm Spray <b>4"/4.5"/Quart</b> , 1 (ppp), 9-12 (weeks), Spring, <b>PGR</b> daminozide 2,500-3,500 ppm Spray <b>5"/6"/1 Gallon</b> , 1-3 (ppp), 12-14 (weeks), Spring, <b>PGR</b> daminozide 2,500-3,500 ppm Spray	Prefers to grow in cooler conditions. Warmer temperatures above 70°F (21°C) could delay or inhibit flowering.
ISOTOMA <i>Isotoma axillaris</i> <b>Tristar Series</b>	288	(day) 61-65°F (16-18°C) (night) 57-61°F (14-16°C)	5.8-6.2 pH 1.5-2.0 mmhos/cm	Facultative Long Day	<b>306 Pack</b> , 1 (ppp), 9-10 (weeks), Spring, <b>PGR</b> daminozide 2,500-3,500 ppm Spray <b>4"/4.5"/Quart</b> , 1 (ppp), 9-12 (weeks), Spring, <b>PGR</b> daminozide 2,500-3,500 ppm Spray <b>5"/6"/1 Gallon</b> , 1-3 (ppp), 12-14 (weeks), Spring, <b>PGR</b> daminozide 2,500-3,500 ppm Spray	Prefers to grow in cooler conditions. Warmer temperatures above 70°F (21°C) could delay or inhibit flowering.
JUNCUS <i>Juncus effusus spiralis</i> <b>Twister</b>	288	(day) 66-74°F (19-23°C) (night) 59-64°F (15-18°C)	5.5-6.2 pH 1.2-1.5 mmhos/cm		<b>306 Pack</b> , 1 (ppp), 6-7 (weeks), Spring <b>4"/4.5"/Quart</b> , 1 (ppp), 7-8 (weeks), Spring <b>5"/6"/1 Gallon</b> , 3 (ppp), 7-8 (weeks), Spring	Do not bury plugs too deeply when transplanting.
LEYCESTERIA <i>Leycesteria formosa</i> <b>Jealousy</b>	288	(day) 68-75°F (20-24°C) (night) 65-67°F (18-19°C)	5.6-6.2 pH 1.2-1.5 mmhos/cm	Obligate Short Day Under short days, plants will flower and develop decorative red berries.	<b>306 Pack</b> , 1 (ppp), 6-7 (weeks), Spring <b>4"/4.5"/Quart</b> , 1 (ppp), 6-7 (weeks), Spring <b>5"/6"/1 Gallon</b> , 3 (ppp), 7-8 (weeks), Spring	The best way to control plant growth with good uniform habit is to pinch or trim the plants down to 3 to 4 leaf pairs. It is most uniform when done two weeks after transplanting. Ensure all the main stems of each plant grow out of the multi-seeded pellets for maximum uniformity.
LINARIA <i>Linaria hybrida</i> <b>Enchantment F<sub>1</sub></b>	288	(day) 55-65°F (13-18°C) (night) 50-60°F (10-16°C)	5.8-6.2 pH 1.2-1.5 mmhos/cm	Day Neutral	<b>306 Pack</b> , 1 (ppp), 6-7 (weeks), Spring, <b>PGR</b> paclobutrazol 10 ppm Spray <b>4"/4.5"/Quart</b> , 1-3 (ppp), 6-7 (weeks), Spring, <b>PGR</b> paclobutrazol 10 ppm Spray	Cool-season crop will benefit from being grown cooler. Paclobutrazol rates of 10 ppm spray 1 week after transplant have shown to control stretch. Use paclobutrazol at rates of up to 20 ppm.
LISIANTHUS <i>Eustoma grandiflorum</i> <b>Florida F<sub>1</sub> Series</b>	288 512	(day) 68-75°F (20-24°C) (night) 60-65°F (16-18°C)	6.5-6.8 pH 0.75 mmhos/cm	Facultative Long Day	<b>4"/4.5"/Quart</b> , 1 (ppp), 14-16 (weeks), Spring <b>5"/6"/1 Gallon</b> , 1 (ppp), 14-16 (weeks), Spring	Maintain pH of 6.5 to 6.8. Do not allow plugs to become rootbound.
LOBELIA <i>Lobelia erinus</i> <b>Cambridge Series</b>	288	(day) 66-72°F (19-22°C) (night) 55-60°F (13-16°C)	5.8-6.2 pH 1.5-2.0 mmhos/cm	Facultative Long Day	<b>Cell Pack</b> , 1 (ppp), 8-9 (weeks), Spring	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.
LOBELIA <i>Lobelia erinus</i> <b>Cobalt Blue</b>	288	(day) 66-72°F (19-22°C) (night) 55-60°F (13-16°C)	5.8-6.2 pH 1.5-2.0 mmhos/cm	Facultative Long Day	<b>Cell Pack</b> , 1 (ppp), 8-9 (weeks), Spring	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.
LOBELIA <i>Lobelia erinus</i> <b>Crystal Palace</b>	288	(day) 66-72°F (19-22°C) (night) 55-60°F (13-16°C)	5.8-6.2 pH 1.5-2.0 mmhos/cm	Facultative Long Day	<b>Cell Pack</b> , 1 (ppp), 8-9 (weeks), Spring	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.
LOBELIA <i>Lobelia erinus</i> <b>Fountain Series</b>	288	(day) 66-72°F (19-22°C) (night) 55-60°F (13-16°C)	5.8-6.2 pH 1.5-2.0 mmhos/cm	Facultative Long Day	<b>10" Pot or HB/3 Gallon</b> , 5-7 (ppp), 10-12 (weeks), Spring	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.
LOBELIA <i>Lobelia erinus</i> <b>Mrs Clibran</b>	288	(day) 66-72°F (19-22°C) (night) 55-60°F (13-16°C)	5.8-6.2 pH 1.5-2.0 mmhos/cm	Facultative Long Day	<b>Cell Pack</b> , 1 (ppp), 8-9 (weeks), Spring	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.
LOBELIA <i>Lobelia erinus</i> <b>Rapid Series</b>	288	(day) 66-72°F (19-22°C) (night) 55-60°F (13-16°C)	5.8-6.2 pH 1.5-2.0 mmhos/cm	Facultative Long Day	<b>Cell Pack</b> , 1 (ppp), 5-6 (weeks), Spring, <b>PGR</b> daminozide 3,000-5,000 ppm Spray	Lobelias flower more freely when daylength is longer than 12 hours. 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.
LOBELIA <i>Lobelia erinus</i> <b>Regatta Series</b>	288	(day) 66-72°F (19-22°C) (night) 55-60°F (13-16°C)	5.8-6.2 pH 1.5-2.0 mmhos/cm	Facultative Long Day	<b>10" Pot or HB/3 Gallon</b> , 5-7 (ppp), 8-10 (weeks), Spring, <b>PGR</b> daminozide 3,000-5,000 ppm Spray	Lobelias flower more freely when daylength is longer than 12 hours. 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.
LOBELIA <i>Lobelia erinus</i> <b>Riviera Series</b>	288	(day) 66-72°F (19-22°C) (night) 55-60°F (13-16°C)	5.8-6.2 pH 1.5-2.0 mmhos/cm	Facultative Long Day	<b>Cell Pack</b> , 1 (ppp), 5-6 (weeks), Spring, <b>PGR</b> daminozide 3,000-5,000 ppm Spray	Lobelias flower more freely when daylength is longer than 12 hours. 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.
LOBELIA <i>Lobelia erinus</i> <b>Rosamond</b>	288	(day) 66-72°F (19-22°C) (night) 55-60°F (13-16°C)	5.8-6.2 pH 1.5-2.0 mmhos/cm	Facultative Long Day	<b>Cell Pack</b> , 1 (ppp), 8-9 (weeks), Spring	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.
LOBELIA <i>Lobelia erinus</i> <b>Sapphire Pendula</b>	288	(day) 66-72°F (19-22°C) (night) 60-62°F (16-17°C)	5.8-6.2 pH 1.5-2.0 mmhos/cm	Facultative Long Day	<b>10" Pot or HB/3 Gallon</b> , 5-7 (ppp), 10-12 (weeks), Spring	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.



CLASS/SERIES	RECOMMENDED PLUG SIZE	GROWING ON TEMPERATURE (DAYS/NIGHTS)	TARGET MEDIA PH/EC	DAYLENGTH	FINISHING PROGRAMS	KEY TIPS
LOBELIA <i>Lobelia erinus</i> <b>String Of Pearls</b>	288	(day) 66-72°F (19-22°C) (night) 55-60°F (13-16°C)	5.8-6.2 pH 1.5-2.0 mmhos/cm	Facultative Long Day	Cell Pack, 1 (ppp), 8-9 (weeks), Spring	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.
LOBELIA <i>Lobelia erinus</i> <b>White Lady</b>	288	(day) 66-72°F (19-22°C) (night) 55-60°F (13-16°C)	5.8-6.2 pH 1.5-2.0 mmhos/cm	Facultative Long Day	Cell Pack, 1 (ppp), 8-9 (weeks), Spring	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.
MARIGOLD (AFRICAN) <i>Tagetes erecta</i> <b>Lady F<sub>1</sub> Series</b>	288	(day) 65-68°F (18-20°C) (night) 60-62°F (16-17°C)	6.2-6.5 pH 1.2-1.5 mmhos/cm	Facultative Short Day Will flower quicker when the daylength is 12 hours or shorter. When grown at daylength longer than 12 hours, it will take an additional 10 to 14 days to flower.	4"/4.5"/Quart, 1 (ppp), 8-9 (weeks), Spring	Maintain soil pH of 6.2 to 6.5 to avoid iron toxicity. Plant Growth Regulators: PGRs are not required when grown under short days, since plants will finish naturally shorter. Treat with PGRs when grown under long days. Daminozide at 5,000 ppm applied twice as a foliar spray can control the plant growth. In northwestern Europe, use daminozide at 1,300 to 2,000 ppm.
MARIGOLD (AFRICAN) <i>Tagetes erecta</i> <b>Marvel F<sub>1</sub> Series</b>	288	(day) 65-68°F (18-20°C) (night) 60-62°F (16-17°C)	6.2-6.5 pH 1.2-1.5 mmhos/cm	Facultative Short Day Will flower quicker when the daylength is 12 hours or shorter. When grown at daylength longer than 12 hours, it will take an additional 10 to 14 days to flower.	4"/4.5"/Quart, 1 (ppp), 7-8 (weeks), Spring	Maintain soil pH of 6.2 to 6.5 to avoid iron toxicity. Plant Growth Regulators: PGRs are not required when grown under short days, since plants will finish naturally shorter. Treat with PGRs when grown under long days. Daminozide at 5,000 ppm applied twice as a foliar spray can control the plant growth. In northwestern Europe, use daminozide at 1,300 to 2,000 ppm.
MARIGOLD (AFRICAN) <i>Tagetes erecta</i> <b>Taishan® F<sub>1</sub> Series</b>	288	(day) 65-68°F (18-20°C) (night) 60-62°F (16-17°C)	6.2-6.5 pH 1.2-1.5 mmhos/cm	Facultative Short Day Will flower quicker when the daylength is 12 hours or shorter. When grown at daylength longer than 12 hours, it will take an additional 10 to 14 days to flower.	306 Pack, 1 (ppp), 4-6 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 4-6 (weeks), Spring 306 Pack, 1 (ppp), 6-7 (weeks), Summer 4"/4.5"/Quart, 1 (ppp), 6-7 (weeks), Summer	Maintain soil pH of 6.2 to 6.5 to avoid iron toxicity. Plant Growth Regulators: PGRs are not required when grown under short days, since plants will finish naturally shorter. Treat with PGRs when grown under long days. Daminozide at 5,000 ppm applied twice as a foliar spray can control the plant growth. In northwestern Europe, use daminozide at 1,300 to 2,000 ppm.
MARIGOLD (AFRICAN) <i>Tagetes erecta</i> <b>Vanilla F<sub>1</sub></b>	288	(day) 65-68°F (18-20°C) (night) 60-62°F (16-17°C)	6.2-6.8 pH 1.0-1.5 mmhos/cm	Facultative Short Day Will flower quicker when the daylength is 12 hours or shorter. When grown at daylength longer than 12 hours, it will take an additional 10 to 14 days to flower.	4"/4.5"/Quart, 1 (ppp), 7-8 (weeks), Spring	Maintain soil pH of 6.2 to 6.5 to avoid iron toxicity. Plant Growth Regulators: PGRs are not required when grown under short days, since plants will finish naturally shorter. Treat with PGRs when grown under long days. Daminozide at 5,000 ppm applied twice as a foliar spray can control the plant growth. In northwestern Europe, use daminozide at 1,300 to 2,000 ppm.
MARIGOLD (FRENCH) <i>Tagetes patula</i> <b>Bonanza Series</b>	288	(day) 65-68°F (18-20°C) (night) 60-62°F (16-17°C)	6.2-6.5 pH 1.0-1.5 mmhos/cm	Facultative Short Day	Cell Pack, 1 (ppp), 3-4 (weeks), Spring	Maintain soil pH of 6.2 to 6.5 to avoid iron toxicity.
MARIGOLD (FRENCH) <i>Tagetes patula</i> <b>Durango® Series</b>	288	(day) 65-68°F (18-20°C) (night) 60-62°F (16-17°C)	6.2-6.5 pH 1.0-1.5 mmhos/cm	Facultative Short Day	Cell Pack, 1 (ppp), 4 (weeks), Spring	Maintain soil pH of 6.2 to 6.5 to avoid iron toxicity.
MARIGOLD (FRENCH) <i>Tagetes patula</i> <b>Fireball</b>	288	(day) 65-68°F (18-20°C) (night) 60-62°F (16-17°C)	6.2-6.5 pH 1.0-1.5 mmhos/cm	Facultative Short Day	306 Pack, 1 (ppp), 3-4 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 4-5 (weeks), Spring 10" Pot or HB/3 Gallon, 5-6 (ppp), 4-6 (weeks), Spring	Maintain soil pH of 6.2 to 6.5 to avoid iron toxicity. Quarts and multi-planted containers with several flowers open provide maximum contrast as blooms mature from red to orange to bronze.
MARIGOLD (FRENCH) <i>Tagetes patula</i> <b>Gate Series</b>	288	(day) 65-68°F (18-20°C) (night) 60-62°F (16-17°C)	6.2-6.5 pH 1.0-1.5 mmhos/cm	Facultative Short Day	Cell Pack, 1 (ppp), 4-5 (weeks), Spring	Maintain soil pH of 6.2 to 6.5 to avoid iron toxicity.
MARIGOLD (FRENCH) <i>Tagetes patula</i> <b>Hot Pak Series</b>	288	(day) 68-85°F (20-29°C) (night) 64-70°F (18-21°C)	6.2-6.5 pH 1.0-1.5 mmhos/cm	Facultative Short Day	Cell Pack, 1 (ppp), 3-4 (weeks), Spring	Maintain soil pH of 6.2 to 6.5 to avoid iron toxicity. Hot Pak is bred to grow and flower under higher temperatures and humidity than other French Marigolds; thus, a wider range of finishing conditions is possible.
MARIGOLD (FRENCH) <i>Tagetes patula</i> <b>Janie Series</b>	288	(day) 65-68°F (18-20°C) (night) 60-62°F (16-17°C)	6.2-6.5 pH 1.0-1.5 mmhos/cm	Facultative Short Day	Cell Pack, 1 (ppp), 3-4 (weeks), Spring	Maintain soil pH of 6.2 to 6.5 to avoid iron toxicity.
MARIGOLD (FRENCH) <i>Tagetes patula</i> <b>Strawberry Blonde</b>	288	(day) 65-68°F (18-20°C) (night) 60-62°F (16-17°C)	6.2-6.5 pH 1.0-1.5 mmhos/cm	Facultative Short Day	306 Pack, 1 (ppp), 3-4 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 4-5 (weeks), Spring 10" Pot or HB/3 Gallon, 5-6 (ppp), 4-6 (weeks), Spring	Maintain soil pH of 6.2 to 6.4 to avoid iron toxicity. Quarts and multi-planted containers with several blooms open provide maximum contrast as blooms mature from rose to orange to straw colour.
MATTHIOLA <i>Matthiola incana</i> <b>Hot Cakes Series</b>	288	(day) 60-70°F (16-21°C) (night) 50-55°F (10-13°C)	5.8-6.2 pH 1.2-1.5 mmhos/cm	Day Neutral	4"/4.5"/Quart, 1 (ppp), 5-7 (weeks), Spring 5"/6"/1 Gallon, 3 (ppp), 5-7 (weeks), Spring	Best produced under cooler temperatures for uniformity/quality of flowering and plant habit. In general, PGRs are not required, but can apply Daminozide 2,500 to 3,500 ppm foliar spray about 2 weeks after transplant. Note: If unselected plugs are used, expect to see both single and double flowering plants in the crop.
NEMESIA <i>Nemesia foetans</i> <b>Poetry F<sub>1</sub> Series</b>	288	(day) 62-68°F (17-20°C) (night) 55-62°F (13-17°C)	5.8-6.2 pH 0.7-1.0 mmhos/cm	Day Neutral	306 Pack, 1 (ppp), 5-7 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 6-8 (weeks), Spring 5"/6"/1 Gallon, 3 (ppp), 6-8 (weeks), Spring	If necessary, use 2 to 3 applications of daminozide 2,500-5,000 ppm Spray.
NEMESIA <i>Nemesia strumosa</i> <b>Sundrops Mixture</b>	288	(day) 60-65°F (16-18°C) (night) 55-60°F (13-16°C)	5.8-6.2 pH 1.2-1.5 mmhos/cm	Day Neutral	4"/4.5"/Quart, 1 (ppp), 8-9 (weeks), Spring	Grow cool, at an optimum temperature of 55°F (13°C).
NICOTIANA <i>Nicotiana glauca</i> <b>Nicki Series</b>	288	(day) 65-70°F (18-21°C) (night) 60-65°F (16-18°C)	5.5-5.8 pH 1.5-2.0 mmhos/cm	Facultative Long Day	Cell Pack, 1 (ppp), 5-6 (weeks), Spring, PGR daminozide 1,500-2,500 ppm Spray 4"/4.5"/Quart, 1 (ppp), 6-7 (weeks), Spring, PGR daminozide 1,500-2,500 ppm Spray	

CLASS/SERIES	RECOMMENDED PLUG SIZE	GROWING ON TEMPERATURE (DAYS/NIGHTS)	TARGET MEDIA PH/EC	DAYLENGTH	FINISHING PROGRAMS	KEY TIPS
ORNAMENTAL CORN <i>Zea mays</i> <b>Pink Zebra</b>	72 128	(day) 68-85°F (20-29°C) (night) 64-68°F (18-20°C)	5.5-6.5 pH 1.5-2.0 mmhos/cm	Ornamental corn will flower earlier during Spring production. Flowering will reduce vegetative growth. Best to sow in Late Spring and Summer when days are longer.	4"/4.5"/Quart, 1 (ppp), 4-5 (weeks), Late Spring 5"/6"/1 Gallon, 1 (ppp), 5-6 (weeks), Late Spring 4"/4.5"/Quart, 1 (ppp), 3-4 (weeks), Autumn 5"/6"/1 Gallon, 1 (ppp), 4-5 (weeks), Autumn	Foliage will exhibit variegation after 5-6 true leaves emerge. Cool night temperatures between 50-60°F (10-16°C) can change foliage color from green to red purple at saleable stage. Best to expose plants to cold just prior to finishing to prevent slow down of growth. Works well in a mix combination, transplant into container 3-4 weeks prior to finish or direct sow 6-7 weeks prior to container finish date. High light levels will increase stem thickness and increase basal tillering. Small pot crop times are based on saleable foliage plants without flower spikes. Dwarf variety will stay compact, but if necessary, Bonzi 5 ppm drench or Topflor 3 ppm drench can be applied 2 weeks after transplant.
ORNAMENTAL MILLET <i>Pennisetum glaucum</i> <b>Copper Prince F<sub>1</sub></b>	128	(day) 68-85°F (20-29°C) (night) 64-66°F (18-19°C)	5.8-6.2 pH 1.5-2.0 mmhos/cm		5"/6"/1 Gallon, 1-2 (ppp), 12-14 (weeks), Spring 5"/6"/1 Gallon, 3 (ppp), 9-10 (weeks), Autumn	Plants that are rootbound or stressed due to drought or nutrient deficiency will not perform well. Do not grow below 60°F (16°C). Low temperatures can cause foliage colour to become chlorotic or cause necrosis and flower spike bending. High light results in better basal tillering and stronger stems. When seeds are sown directly to final pot, apply a paclobutrazol drench 6 to 8 ppm at 4 weeks after sow, and repeat if needed 10 days later. When transplanting plugs, use a 3 to 5 ppm paclobutrazol drench at 1 week after transplant. Small pot crop times are based on 68°F (20°C) daily average temperature and saleable foliage plants without flower spikes.
ORNAMENTAL MILLET <i>Pennisetum glaucum</i> <b>Jade Princess F<sub>1</sub></b>	128	(day) 68-85°F (20-29°C) (night) 64-66°F (18-19°C)	5.8-6.2 pH 1.5-2.0 mmhos/cm		4"/4.5"/Quart, 1 (ppp), 4-5 (weeks), Spring 5"/6"/1 Gallon, 1-2 (ppp), 12-14 (weeks), Spring 5"/6"/1 Gallon, 3 (ppp), 9-10 (weeks), Autumn	Plants that are rootbound or stressed due to drought or nutrient deficiency will not perform well. Do not grow below 60°F (16°C). Low temperatures can cause foliage colour to become chlorotic or cause necrosis and flower spike bending. Jade Princess is especially cold sensitive. High light results in better basal tillering and stronger stems. When seeds are sown directly to final pot, apply a paclobutrazol drench 6 to 8 ppm at 4 weeks after sow, and repeat if needed 10 days later. When transplanting plugs, use a 3 to 5 ppm paclobutrazol drench at 1 week after transplant. Small pot crop times are based on 68°F (20°C) daily average temperature and saleable foliage plants without flower spikes.
ORNAMENTAL MILLET <i>Pennisetum glaucum</i> <b>Jester F<sub>1</sub></b>	128	(day) 68-85°F (20-29°C) (night) 64-66°F (18-19°C)	5.5-6.5 pH 1.5-2.0 mmhos/cm		5"/6"/1 Gallon, 3 (ppp), 11-13 (weeks), Spring, PGR paclobutrazol 3-5 ppm Drench 5"/6"/1 Gallon, 3 (ppp), 9-10 (weeks), Autumn	Plants that are rootbound or stressed due to drought or nutrient deficiency will not perform well. Do not grow below 60°F (16°C). Low temperatures can cause foliage colour to become chlorotic or cause necrosis and flower spike bending. High light results in better basal tillering and stronger stems. When seeds are sown directly to final pot, apply a paclobutrazol drench 6 to 8 ppm at 4 weeks after sow, and repeat if needed 10 days later. When transplanting plugs, use a 3 to 5 ppm paclobutrazol drench at 1 week after transplant. Small pot crop times are based on 68°F (20°C) daily average temperature and saleable foliage plants without flower spikes.
ORNAMENTAL MILLET <i>Pennisetum glaucum</i> <b>Purple Baron F<sub>1</sub></b>	128	(day) 68-85°F (20-29°C) (night) 64-66°F (18-19°C)	5.5-6.5 pH 1.5-2.0 mmhos/cm		5"/6"/1 Gallon, 3 (ppp), 11-13 (weeks), Spring, PGR paclobutrazol 3-5 ppm Drench 5"/6"/1 Gallon, 3 (ppp), 9-10 (weeks), Autumn	Plants that are rootbound or stressed due to drought or nutrient deficiency will not perform well. Do not grow below 60°F (16°C). Low temperatures can cause foliage colour to become chlorotic or cause necrosis and flower spike bending. High light results in better basal tillering and stronger stems. When seeds are sown directly to final pot, apply a paclobutrazol drench 6 to 8 ppm at 4 weeks after sow, and repeat if needed 10 days later. When transplanting plugs, use a 3 to 5 ppm paclobutrazol drench at 1 week after transplant. Small pot crop times are based on 68°F (20°C) daily average temperature and saleable foliage plants without flower spikes.
ORNAMENTAL MILLET <i>Pennisetum glaucum</i> <b>Purple Majesty</b>	128	(day) 68-85°F (20-29°C) (night) 64-66°F (18-19°C)	5.5-6.5 pH 1.5-2.0 mmhos/cm		5"/6"/1 Gallon, 3 (ppp), 11-13 (weeks), Spring, PGR paclobutrazol 3-5 ppm Drench 5"/6"/1 Gallon, 3 (ppp), 9-10 (weeks), Autumn	Plants that are rootbound or stressed due to drought or nutrient deficiency will not perform well. Do not grow below 60°F (16°C). Low temperatures can cause foliage colour to become chlorotic or cause necrosis and flower spike bending. High light results in better basal tillering and stronger stems. When seeds are sown directly to final pot, apply a paclobutrazol drench 6 to 8 ppm at 4 weeks after sow, and repeat if needed 10 days later. When transplanting plugs, use a 3 to 5 ppm paclobutrazol drench at 1 week after transplant. Small pot crop times are based on 68°F (20°C) daily average temperature and saleable foliage plants without flower spikes.
ORNAMENTAL MINT <i>Mentha requienii</i> <b>Mini Mint</b>	288	(day) 68-75°F (20-24°C) (night) 60-64°F (16-18°C)	5.8-6.2 pH 0.75-1.0 mmhos/cm	Day Neutral	306 Pack, 1 (ppp), 4-6 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 5-7 (weeks), Spring 5"/6"/1 Gallon, 1-3 (ppp), 6-8 (weeks), Spring	Consistently maintain media moisture, avoiding excessive wet or dry. Plants grow faster under warmer temperatures. However, under low light conditions, they may stretch if temperature is warmer than 68°F (20°C).
ORNAMENTAL OREGANO <i>Origanum x hybrida</i> <b>Kirigami</b>	288	(day) 65-68°F (18-20°C) (night) 60-65°F (16-18°C)	5.8-6.5 pH 1.2-1.5 mmhos/cm	Obligate Long Day Long day required, critical daylength 14 hrs.	4"/4.5"/Quart, 1 (ppp), 10-12 (weeks), Late Spring, PGR daminozide 1,500-2,000 ppm Spray 5"/6"/1 Gallon, 1 (ppp), 11-13 (weeks), Late Spring, PGR daminozide 1,500-2,000 ppm Spray 10" Pot or HB/3 Gallon, 3-5 (ppp), 12-13 (weeks), Late Spring, PGR daminozide 1,500-2,000 ppm Spray 4"/4.5"/Quart, 1 (ppp), 9-10 (weeks), Summer, PGR daminozide 1,500-2,000 ppm Spray 5"/6"/1 Gallon, 1 (ppp), 9-11 (weeks), Summer, PGR daminozide 1,500-2,500 ppm Spray 10" Pot or HB/3 Gallon, 3-5 (ppp), 10-12 (weeks), Summer, PGR daminozide 2,000-2,500 ppm Spray	Needs an active growing climate, grow on dry side, with higher light levels. Best to grow indoors, if you have frequent rain. Apply low to moderate fertilization and moderate irrigation. Let well-drained media dry between watering. Cannot stand wet conditions, will result in stem and root rot. The bracts will develop much deeper purple color when plants are exposed to high light (12 to 15 mol·m <sup>-2</sup> ·d <sup>-1</sup> ) and cool night conditions (lower than 50°F/10°C). If you have dry climate, grow outside for deepest purple bract color. Kirigami reacts well to daminozide, and it should be used at lower concentrations with multiple applications to avoid stunting. Avoid using daminozide once color is starting on the bracts, to prevent bleaching. With its versatile use, there is no specific number of PGR applications. It is easy to mold to your desired look or container size.
ORNAMENTAL PEPPER <i>Capsicum annuum</i> <b>Black Pearl</b>	288	(day) 68-80°F (20-27°C) (night) 65-70°F (18-21°C)	5.5-6.2 pH 1.2-1.5 mmhos/cm		4"/4.5"/Quart, 1 (ppp), 5-6 (weeks), Summer 5"/6"/1 Gallon, 1-3 (ppp), 6-7 (weeks), Summer 4"/4.5"/Quart, 1 (ppp), 5-6 (weeks), Autumn 5"/6"/1 Gallon, 1-3 (ppp), 6-7 (weeks), Autumn	As Black Pearl is used especially for its foliage, crop times reflect finish for foliage, not fruit. Performs best under high light and warm temperatures. Add 4 to 5 weeks for Spring production crop times.
ORNAMENTAL PEPPER <i>Capsicum annuum</i> <b>Calico F<sub>1</sub></b>	288	(day) 68-80°F (20-27°C) (night) 65-70°F (18-21°C)	5.5-6.2 pH 1.2-1.5 mmhos/cm		4"/4.5"/Quart, 1 (ppp), 5-6 (weeks), Summer 5"/6"/1 Gallon, 1-3 (ppp), 6-7 (weeks), Summer 4"/4.5"/Quart, 1 (ppp), 5-6 (weeks), Autumn 5"/6"/1 Gallon, 1-3 (ppp), 6-7 (weeks), Autumn	As Calico is used especially for its foliage, crop times reflect finish for foliage, not fruit. Performs best under high light and warm temperatures. Add 4 to 5 weeks for Spring production crop times.

CLASS/SERIES	RECOMMENDED PLUG SIZE	GROWING ON TEMPERATURE (DAYS/NIGHTS)	TARGET MEDIA PH/EC	DAYLENGTH	FINISHING PROGRAMS	KEY TIPS
ORNAMENTAL PEPPER <i>Capsicum annuum</i> <b>Midnight Fire</b>	288	(day) 68-80°F (20-27°C) (night) 65-70°F (18-21°C)	5.5-6.2 pH 1.2-1.5 mmhos/cm		4"/4.5"/Quart, 1 (ppp), 7-13 (weeks), Summer 5"/6"/1 Gallon, 1-3 (ppp), 7-13 (weeks), Summer 4"/4.5"/Quart, 1 (ppp), 7-13 (weeks), Autumn 5"/6"/1 Gallon, 1-3 (ppp), 7-13 (weeks), Autumn	Performs best under high light and warm temperatures. Add 4 to 5 weeks for Spring production crop times.
ORNAMENTAL PEPPER <i>Capsicum annuum</i> <b>Purple Flash</b>	288	(day) 68-80°F (20-27°C) (night) 65-70°F (18-21°C)	5.5-6.2 pH 1.2-1.5 mmhos/cm		4"/4.5"/Quart, 1 (ppp), 5-6 (weeks), Summer 5"/6"/1 Gallon, 1-3 (ppp), 6-7 (weeks), Summer 4"/4.5"/Quart, 1 (ppp), 5-6 (weeks), Autumn 5"/6"/1 Gallon, 1-3 (ppp), 6-7 (weeks), Autumn	As Purple Flash is used especially for its foliage, crop times reflect finish for foliage, not fruit. Performs best under high light and warm temperatures. Add 4 to 5 weeks for Spring production crop times.
ORNAMENTAL PEPPER <i>Capsicum annuum</i> <b>Sangria F<sub>1</sub></b>	288	(day) 68-80°F (20-27°C) (night) 65-70°F (18-21°C)	5.5-6.2 pH 1.2-1.5 mmhos/cm		5"/6"/1 Gallon, 1-3 (ppp), 7-13 (weeks), Summer 5"/6"/1 Gallon, 1-3 (ppp), 7-13 (weeks), Autumn	Performs best under high light and warm temperatures. Add 4 to 5 weeks for Spring production crop times.
ORNAMENTAL PEPPER <i>Capsicum annuum</i> <b>Sedona Sun</b>	288	(day) 68-80°F (20-27°C) (night) 65-70°F (18-21°C)	5.5-6.2 pH 1.2-1.5 mmhos/cm		5"/6"/1 Gallon, 1-3 (ppp), 7-13 (weeks), Summer 5"/6"/1 Gallon, 1-3 (ppp), 7-13 (weeks), Autumn	Performs best under high light and warm temperatures. Add 4 to 5 weeks for Spring production crop times.
OSTEOSPERMUM <i>Osteospermum ecklonis</i> <b>Akila® F<sub>1</sub> Series</b>	288 105	(day) 60-70°F (16-21°C) (night) 50-55°F (10-13°C)	5.8-6.2 pH 1.5-2.0 mmhos/cm	Day Neutral	306 Pack, 1 (ppp), 10-12 (weeks), Spring, PGR daminozide/chlormequat chloride tank mix 2,500/500 ppm Spray 4"/4.5"/Quart, 1 (ppp), 10-12 (weeks), Spring, PGR daminozide/chlormequat chloride tank mix 2,500/500 ppm Spray 5"/6"/1 Gallon, 1-3 (ppp), 12-14 (weeks), Spring, PGR daminozide/chlormequat chloride tank mix 2,500/500 ppm Spray 306 Pack, 1 (ppp), 7-9 (weeks), Autumn, PGR daminozide/chlormequat chloride tank mix 2,500/500 ppm Spray 4"/4.5"/Quart, 1 (ppp), 7-9 (weeks), Autumn, PGR daminozide/chlormequat chloride tank mix 2,500/500 ppm Spray 5"/6"/1 Gallon, 1-3 (ppp), 9-11 (weeks), Autumn, PGR daminozide/chlormequat chloride tank mix 2,500/500 ppm Spray	Supplemental lighting will reduce days to flower. Plants grown under high light and cool conditions may not require PGRs. If needed, apply daminozide/chlormequat chloride 2,500/500 ppm tank mix 2 weeks after transplant. Alternatively, flurprimidol at 10 to 15 ppm spray applied once after transplant will give adequate control.
PANSY <i>Viola x wittrockiana</i> <b>Fizzy F<sub>1</sub> Series</b>	288	(day) 60-70°F (16-21°C) (night) 50-55°F (10-13°C)	5.5-5.8 pH 1.5-2.0 mmhos/cm	Facultative Long Day	5"/6"/1 Gallon, 3 (ppp), 6-8 (weeks), Early Spring, PGR daminozide/chlormequat chloride tank mix 1,500/150-2,500/250 ppm Spray 10" Pot or HB/3 Gallon, 7-9 (ppp), 6-8 (weeks), Early Spring, PGR daminozide/chlormequat chloride tank mix 1,500/150-2,500/250 ppm Spray 5"/6"/1 Gallon, 3 (ppp), 4-6 (weeks), Autumn, PGR daminozide/chlormequat chloride tank mix 2,500/250-5,000/500 ppm Spray 10" Pot or HB/3 Gallon, 7-9 (ppp), 4-6 (weeks), Autumn, PGR daminozide/chlormequat chloride tank mix 2,500/250-5,000/500 ppm Spray	Adjust PGR rates and frequency of application depending on local conditions. If growing frost-free (northern overwinter culture from Autumn transplant) plan for crop times of 16 to 18 weeks from transplant to finish. For maximum ruffled edge, schedule for late Autumn, Winter and Spring programs. Heat reduces the ruffled edge and colour contrast.
PANSY <i>Viola x wittrockiana</i> <b>Frizzle Sizzle F<sub>1</sub> Series</b>	288	(day) 60-70°F (16-21°C) (night) 50-55°F (10-13°C)	5.5-5.8 pH 1.5-2.0 mmhos/cm	Facultative Long Day	5"/6"/1 Gallon, 3 (ppp), 6-8 (weeks), Early Spring, PGR daminozide/chlormequat chloride tank mix 1,500/150-2,500/250 ppm Spray 10" Pot or HB/3 Gallon, 7-9 (ppp), 6-8 (weeks), Early Spring, PGR daminozide/chlormequat chloride tank mix 1,500/150-2,500/250 ppm Spray 5"/6"/1 Gallon, 3 (ppp), 4-6 (weeks), Autumn, PGR daminozide/chlormequat chloride tank mix 2,500/250-5,000/500 ppm Spray 10" Pot or HB/3 Gallon, 7-9 (ppp), 4-6 (weeks), Autumn, PGR daminozide/chlormequat chloride tank mix 2,500/250-5,000/500 ppm Spray	Adjust PGR rates and frequency of application depending on local conditions. If growing frost-free (northern overwinter culture from Autumn transplant) plan for crop times of 16 to 18 weeks from transplant to finish. For maximum ruffled edge, schedule for late Autumn, Winter and Spring programs. Heat reduces the ruffled edge and colour contrast.
PANSY <i>Viola x wittrockiana</i> <b>Halloween Improved F<sub>1</sub></b>	288	(day) 60-70°F (16-21°C) (night) 50-55°F (10-13°C)	5.5-5.8 pH 1.5-2.0 mmhos/cm	Facultative Long Day	Cell Pack, 1 (ppp), 4-5 (weeks), Autumn, PGR daminozide/chlormequat chloride tank mix 2,500/250-5,000/500 ppm Spray Cell Pack, 1 (ppp), 4-5 (weeks), Autumn, PGR paclobutrazol 0.125 ppm Drench 4"/4.5"/Quart, 1 (ppp), 5-6 (weeks), Autumn, PGR daminozide/chlormequat chloride tank mix 2,500/250-5,000/500 ppm Spray 4"/4.5"/Quart, 1 (ppp), 5-6 (weeks), Autumn, PGR paclobutrazol 0.125 ppm Drench 10" Pot or HB/3 Gallon, 7-9 (ppp), 4-5 (weeks), Autumn, PGR daminozide/chlormequat chloride tank mix 2,500/250-5,000/500 ppm Spray	Adjust PGR rates and frequency of application depending on local conditions.
PANSY <i>Viola x wittrockiana</i> <b>Matrix® F<sub>1</sub> Series</b>	288	(day) 60-70°F (16-21°C) (night) 50-55°F (10-13°C)	5.5-5.8 pH 1.5-2.0 mmhos/cm	Facultative Long Day	Cell Pack, 1 (ppp), 4-5 (weeks), Autumn, PGR daminozide/chlormequat chloride tank mix 2,500/250-5,000/500 ppm Spray Cell Pack, 1 (ppp), 4-5 (weeks), Autumn, PGR paclobutrazol 0.125 ppm Drench 4"/4.5"/Quart, 1 (ppp), 5-6 (weeks), Autumn, PGR daminozide/chlormequat chloride tank mix 2,500/250-5,000/500 ppm Spray 4"/4.5"/Quart, 1 (ppp), 5-6 (weeks), Autumn, PGR paclobutrazol 0.125 ppm Drench 10" Pot or HB/3 Gallon, 7-9 (ppp), 4-5 (weeks), Autumn, PGR daminozide/chlormequat chloride tank mix 2,500/250-5,000/500 ppm Spray	Adjust PGR rates and frequency of application depending on local conditions.

CLASS/SERIES	RECOMMENDED PLUG SIZE	GROWING ON TEMPERATURE (DAYS/NIGHTS)	TARGET MEDIA PH/EC	DAYLENGTH	FINISHING PROGRAMS	KEY TIPS
PANSY <i>Viola x wittrockiana</i> <b>Panola® F<sub>1</sub> Series</b>	288	(day) 60-70°F (16-21°C) (night) 50-55°F (10-13°C)	5.5-5.8 pH 1.5-2.0 mmhos/cm	Facultative Long Day	<b>Cell Pack</b> , 1 (ppp), 5-6 (weeks), Early Spring, <b>PGR</b> daminozide/chlormequat chloride tank mix 1,500/150-2,500/250 ppm Spray <b>4"/4.5"/Quart</b> , 1 (ppp), 5-6 (weeks), Early Spring, <b>PGR</b> daminozide/chlormequat chloride tank mix 1,500/150-2,500/250 ppm Spray <b>Cell Pack</b> , 1 (ppp), 3-4 (weeks), Autumn, <b>PGR</b> daminozide/chlormequat chloride tank mix 2,500/250-5,000/500 ppm Spray <b>Cell Pack</b> , 1 (ppp), 3-4 (weeks), Autumn, <b>PGR</b> paclobutrazol 0.1-0.125 ppm Drench <b>4"/4.5"/Quart</b> , 1 (ppp), 4-5 (weeks), Autumn, <b>PGR</b> daminozide/chlormequat chloride tank mix 2,500/250-5,000/500 ppm Spray <b>4"/4.5"/Quart</b> , 1 (ppp), 4-5 (weeks), Autumn, <b>PGR</b> paclobutrazol 0.1-0.125 ppm Drench	Adjust PGR rates and frequency of application depending on local conditions. If growing frost-free (northern overwinter culture from Autumn transplant) plan for crop times of 16 to 18 weeks from transplant to finish.
PANSY <i>Viola x wittrockiana</i> <b>Panola® XP F<sub>1</sub> Series</b>	288	(day) 60-70°F (16-21°C) (night) 50-55°F (10-13°C)	5.5-5.8 pH 1.5-2.0 mmhos/cm	Facultative Long Day	<b>Cell Pack</b> , 1 (ppp), 5-6 (weeks), Early Spring, <b>PGR</b> daminozide/chlormequat chloride tank mix 1,500/150-2,500/250 ppm Spray <b>4"/4.5"/Quart</b> , 1 (ppp), 5-6 (weeks), Early Spring, <b>PGR</b> daminozide/chlormequat chloride tank mix 1,500/150-2,500/250 ppm Spray <b>Cell Pack</b> , 1 (ppp), 3-4 (weeks), Autumn, <b>PGR</b> daminozide/chlormequat chloride tank mix 2,500/500-5,000/500 ppm Spray <b>Cell Pack</b> , 1 (ppp), 3-4 (weeks), Autumn, <b>PGR</b> paclobutrazol 0.1-0.125 ppm Drench <b>4"/4.5"/Quart</b> , 1 (ppp), 4-5 (weeks), Autumn, <b>PGR</b> daminozide/chlormequat chloride tank mix 2,500/500-5,000/500 ppm Spray <b>4"/4.5"/Quart</b> , 1 (ppp), 3-4 (weeks), Autumn, <b>PGR</b> paclobutrazol 0.1-0.125 ppm Drench	Adjust PGR rates and frequency of application depending on local conditions. If growing frost-free (northern overwinter culture from Autumn transplant) plan for crop times of 16 to 18 weeks from transplant to finish.
PANSY <i>Viola x wittrockiana</i> <b>Promise® F<sub>1</sub> Series</b>	288	(day) 60-70°F (16-21°C) (night) 50-55°F (10-13°C)	5.5-5.8 pH 1.5-2.0 mmhos/cm	Facultative Long Day	<b>Cell Pack</b> , 1 (ppp), 6-7 (weeks), Early Spring, <b>PGR</b> daminozide/chlormequat chloride tank mix 1,500/500 ppm Spray <b>4"/4.5"/Quart</b> , 1 (ppp), 6-7 (weeks), Early Spring, <b>PGR</b> daminozide/chlormequat chloride tank mix 1,500/500 ppm Spray <b>10" Pot or HB/3 Gallon</b> , 7-9 (ppp), 6-7 (weeks), Early Spring, <b>PGR</b> daminozide/chlormequat chloride tank mix 1,500/500 ppm Spray	Adjust PGR rates and frequency of application depending on local conditions. If growing frost-free (northern overwinter culture from Autumn transplant) plan for crop times of 17 to 18 weeks from transplant to finish.
PANSY <i>Viola x wittrockiana</i> <b>Spring Matrix F<sub>1</sub> Series</b>	288	(day) 60-70°F (16-21°C) (night) 50-55°F (10-13°C)	5.5-5.8 pH 1.5-2.0 mmhos/cm	Facultative Long Day	<b>Cell Pack</b> , 1 (ppp), 6-7 (weeks), Early Spring, <b>PGR</b> daminozide/chlormequat chloride tank mix 1,500/500 ppm Spray <b>4"/4.5"/Quart</b> , 1 (ppp), 6-7 (weeks), Early Spring, <b>PGR</b> daminozide/chlormequat chloride tank mix 1,500/500 ppm Spray <b>10" Pot or HB/3 Gallon</b> , 7-9 (ppp), 6-7 (weeks), Early Spring, <b>PGR</b> daminozide/chlormequat chloride tank mix 1,500/500 ppm Spray	Adjust PGR rates and frequency of application depending on local conditions. If growing frost-free (northern overwinter culture from Autumn transplant) plan for crop times of 17 to 18 weeks from transplant to finish.
PANSY (SPREADING) <i>Viola x wittrockiana</i> <b>Cool Wave® F<sub>1</sub> Series</b>	288	(day) 62-70°F (17-21°C) (night) 55-60°F (13-16°C)	5.5-5.8 pH 1.2-1.5 mmhos/cm	Facultative Long Day	<b>5"/6"/1 Gallon</b> , 1-3 (ppp), 6-7 (weeks), Early Spring, <b>PGR</b> daminozide/chlormequat chloride tank mix 2,500/250 ppm Spray <b>10" Pot or HB/3 Gallon</b> , 4 (ppp), 9-10 (weeks), Early Spring, <b>PGR</b> daminozide/chlormequat chloride tank mix 2,500/250 ppm Spray <b>5"/6"/1 Gallon</b> , 1-3 (ppp), 5-6 (weeks), Autumn, <b>PGR</b> daminozide/chlormequat chloride tank mix 5,000/500 ppm Spray <b>10" Pot or HB/3 Gallon</b> , 4 (ppp), 7-8 (weeks), Autumn, <b>PGR</b> daminozide/chlormequat chloride tank mix 5,000/500 ppm Spray	In heat of Autumn production, a paclobutrazol drench of 0.1 to 0.125 can be used once foliage is covering soil. Consult Cool Wave Production Handbook for more detailed information on scheduling for Autumn and Spring programs and variety-specific PGR information.
PENTAS <i>Pentas lanceolata</i> <b>Butterfly F<sub>1</sub> Series</b>	288	(day) 72-80°F (22-27°C) (night) 65-68°F (18-20°C)	6.5-6.8 pH 1.2-1.5 mmhos/cm	Day Neutral	<b>Cell Pack</b> , 1 (ppp), 8-10 (weeks), Spring <b>4"/4.5"/Quart</b> , 1 (ppp), 8-10 (weeks), Spring <b>5"/6"/1 Gallon</b> , 2 (ppp), 8-10 (weeks), Spring	High light levels and temperatures will reduce crop time. Pentas will naturally decrease pH levels in the soil and regular monitoring is necessary. Plants that have pH below 6.4 will slow growth, delay flowering, exhibit signs of iron toxicity (foliar necrosis) and calcium/magnesium deficiency (foliar puckering). When needed, a tank mix of daminozide 2,500 to 5,000 ppm and chlormequat 500 to 750 ppm can be used. Paclobutrazol sprays of 5 to 10 ppm are also effective.
PENTAS <i>Pentas lanceolata</i> <b>Glitterati F<sub>1</sub> Series</b>	288	(day) 72-80°F (22-27°C) (night) 65-68°F (18-20°C)	6.5-6.8 pH 1.2-1.5 mmhos/cm	Day Neutral	<b>Cell Pack</b> , 1 (ppp), 7-8 (weeks), Spring <b>4"/4.5"/Quart</b> , 1 (ppp), 7-8 (weeks), Spring <b>5"/6"/1 Gallon</b> , 2 (ppp), 7-8 (weeks), Spring	High light levels and temperatures will reduce crop time. Pentas will naturally decrease pH levels in the soil and regular monitoring is necessary. Plants that have pH below 6.4 will slow growth, delay flowering, exhibit signs of iron toxicity (foliar necrosis) and calcium/magnesium deficiency (foliar puckering). When needed, a tank mix of daminozide 2,500 to 5,000 ppm and chlormequat 500 to 750 ppm can be used. Paclobutrazol sprays of 5 to 10 ppm are also effective.
PENTAS <i>Pentas lanceolata</i> <b>Lucky Star F<sub>1</sub> Series</b>	288	(day) 72-80°F (22-27°C) (night) 62-65°F (17-18°C)	6.5-6.8 pH 1.2-1.5 mmhos/cm	Day Neutral	<b>Cell Pack</b> , 1 (ppp), 7-8 (weeks), Spring <b>4"/4.5"/Quart</b> , 1 (ppp), 7-8 (weeks), Spring <b>5"/6"/1 Gallon</b> , 2 (ppp), 7-8 (weeks), Spring	High light levels and temperatures will reduce crop time. Pentas will naturally decrease pH levels in the soil and regular monitoring is necessary. Plants that have pH below 6.4 will slow growth, delay flowering, exhibit signs of iron toxicity (foliar necrosis) and calcium/magnesium deficiency (foliar puckering). Growth Regulators: The Lucky Star series has been bred and selected for natural compactness. When needed, a tank mix of daminozide 2,500 to 5,000 ppm and chlormequat 500 to 750 ppm can be used. Paclobutrazol sprays of 5 to 10 ppm are also effective.
PETUNIA <i>Petunia x hybrida</i> <b>Carpet F<sub>1</sub> Series</b>	288	(day) 62-70°F (17-21°C) (night) 55-65°F (13-18°C)	5.5-6.2 pH 1.0-1.5 mmhos/cm	Facultative Long Day	<b>Cell Pack</b> , 1 (ppp), 4-5 (weeks), Spring, <b>PGR</b> daminozide 2,500-5,000 ppm Spray <b>10" Pot or HB/3 Gallon</b> , 3 (ppp), 5-7 (weeks), Spring, <b>PGR</b> daminozide 2,500-5,000 ppm Spray	
PETUNIA <i>Petunia x hybrida</i> <b>Daddy® F<sub>1</sub> Series</b>	288	(day) 62-70°F (17-21°C) (night) 55-65°F (13-18°C)	5.5-6.3 pH 1.0-1.5 mmhos/cm	Facultative Long Day	<b>Cell Pack</b> , 1 (ppp), 5-6 (weeks), Spring, <b>PGR</b> daminozide 2,500-5,000 ppm Spray <b>10" Pot or HB/3 Gallon</b> , 3 (ppp), 6-7 (weeks), Spring, <b>PGR</b> daminozide 2,500-3,500 ppm Spray	

CLASS/SERIES	RECOMMENDED PLUG SIZE	GROWING ON TEMPERATURE (DAYS/NIGHTS)	TARGET MEDIA PH/EC	DAYLENGTH	FINISHING PROGRAMS	KEY TIPS
PETUNIA <i>Petunia x hybrida</i> <b>Debonair Collection F<sub>1</sub> Series</b>	288	(day) 62-70°F (17-21°C) (night) 55-65°F (13-18°C)	5.5-6.2 pH 1.0-1.5 mmhos/cm	Facultative Long Day All varieties can flower successfully at 10-hour daylengths.	<b>4"/4.5"/Quart</b> , 1 (ppp), 5-6 (weeks), Spring, <b>PGR</b> paclobutrazol 2-3 ppm Drench <b>10" Pot or HB/3 Gallon</b> , 3 (ppp), 6-7 (weeks), Spring, <b>PGR</b> paclobutrazol 2-3 ppm Drench <b>4"/4.5"/Quart</b> , 1 (ppp), 3-5 (weeks), Summer, <b>PGR</b> paclobutrazol 2-3 ppm Drench	Avoid using daminozide on Black Cherry, as this may impact flower colour. Options include paclobutrazol or flurprimidol.
PETUNIA <i>Petunia x hybrida</i> <b>Dreams F<sub>1</sub> Series</b>	288	(day) 62-70°F (17-21°C) (night) 55-65°F (13-18°C)	5.5-6.2 pH 1.2-1.5 mmhos/cm	Facultative Long Day	<b>Cell Pack</b> , 1 (ppp), 5-6 (weeks), Spring, <b>PGR</b> daminozide 2,500-5,000 ppm Spray <b>10" Pot or HB/3 Gallon</b> , 3 (ppp), 5-7 (weeks), Spring, <b>PGR</b> daminozide 2,500-5,000 ppm Spray	
PETUNIA <i>Petunia x hybrida</i> <b>Ez Rider® F<sub>1</sub> Series</b>	288	(day) 62-70°F (17-21°C) (night) 55-65°F (13-18°C)	5.5-6.2 pH 1.2-1.5 mmhos/cm	Facultative Long Day Similar to Dreams petunia, all Ez Rider varieties can flower successfully at 10-hour daylengths.	<b>Cell Pack</b> , 1 (ppp), 5-6 (weeks), Spring <b>10" Pot or HB/3 Gallon</b> , 3 (ppp), 6-7 (weeks), Spring, <b>PGR</b> daminozide 2,500-3,500 ppm Spray	Genetically compact and needs less to no PGRs after transplant.
PETUNIA <i>Petunia x hybrida</i> <b>Lo Rider® F<sub>1</sub> Series</b>	288	(day) 62-70°F (17-21°C) (night) 55-65°F (13-18°C)	5.5-6.2 pH 1.2-1.5 mmhos/cm	Facultative Long Day All Lo Rider varieties can flower successfully at 10-hour daylengths.	<b>Cell Pack</b> , 1 (ppp), 5-6 (weeks), Spring, <b>PGR</b> daminozide 2,500-3,500 ppm Spray <b>10" Pot or HB/3 Gallon</b> , 3 (ppp), 6-7 (weeks), Spring, <b>PGR</b> daminozide 2,500-3,500 ppm Spray	Genetically compact and may need less to no PGRs after transplant.
PETUNIA <i>Petunia x hybrida</i> <b>Madness® F<sub>1</sub> Series</b>	288	(day) 62-70°F (17-21°C) (night) 55-65°F (13-18°C)	5.5-6.2 pH 1.0-1.5 mmhos/cm	Facultative Long Day	<b>Cell Pack</b> , 1 (ppp), 5-6 (weeks), Spring, <b>PGR</b> daminozide 2,500-5,000 ppm Spray <b>10" Pot or HB/3 Gallon</b> , 3 (ppp), 5-7 (weeks), Spring, <b>PGR</b> daminozide 2,500-5,000 ppm Spray	
PETUNIA <i>Petunia x hybrida</i> <b>Mirage F<sub>1</sub> Series</b>	288	(day) 62-70°F (17-21°C) (night) 55-65°F (13-18°C)	5.5-6.2 pH 1.0-1.5 mmhos/cm	Facultative Long Day	<b>Cell Pack</b> , 1 (ppp), 5-6 (weeks), Spring, <b>PGR</b> daminozide 2,500-5,000 ppm Spray <b>10" Pot or HB/3 Gallon</b> , 3 (ppp), 5-7 (weeks), Spring, <b>PGR</b> daminozide 2,500-5,000 ppm Spray	
PETUNIA <i>Petunia x hybrida</i> <b>Pretty Flora F<sub>1</sub> Series</b>	288	(day) 62-70°F (17-21°C) (night) 55-65°F (13-18°C)	5.5-6.2 pH 1.2-1.5 mmhos/cm	Facultative Long Day All varieties can flower successfully at 10-hour daylengths.	<b>Cell Pack</b> , 1 (ppp), 5-6 (weeks), Spring, <b>PGR</b> daminozide 2,500-3,500 ppm Spray <b>10" Pot or HB/3 Gallon</b> , 3 (ppp), 6-7 (weeks), Spring, <b>PGR</b> daminozide 2,500-3,500 ppm Spray	Genetically compact and needs less to no PGRs after transplant.
PETUNIA <i>Petunia x hybrida</i> <b>Pretty Grand F<sub>1</sub> Series</b>	288	(day) 62-70°F (17-21°C) (night) 55-65°F (13-18°C)	5.5-6.2 pH 1.2-1.5 mmhos/cm	Facultative Long Day Similar to Dreams petunia, all Pretty Grand varieties can flower successfully at 10-hour daylengths.	<b>Cell Pack</b> , 1 (ppp), 5-6 (weeks), Spring, <b>PGR</b> daminozide 2,500-3,500 ppm Spray <b>10" Pot or HB/3 Gallon</b> , 3 (ppp), 6-7 (weeks), Spring, <b>PGR</b> daminozide 2,500-3,500 ppm Spray	Genetically compact and needs less to no PGRs after transplant.
PETUNIA <i>Petunia x hybrida</i> <b>Sophistica Collection F<sub>1</sub> Series</b>	288	(day) 62-70°F (17-21°C) (night) 55-65°F (13-18°C)	5.5-6.2 pH 1.2-1.5 mmhos/cm	Facultative Long Day Can flower successfully at 10-hour daylengths. Crop time is 3 to 6 days faster under longer days.	<b>4"/4.5"/Quart</b> , 1 (ppp), 5-6 (weeks), Spring, <b>PGR</b> paclobutrazol 2-3 ppm Drench <b>10" Pot or HB/3 Gallon</b> , 3 (ppp), 6-7 (weeks), Spring, <b>PGR</b> paclobutrazol 2-3 ppm Drench <b>4"/4.5"/Quart</b> , 1 (ppp), 4-5 (weeks), Summer, <b>PGR</b> paclobutrazol 2-3 ppm Drench <b>10" Pot or HB/3 Gallon</b> , 3 (ppp), 5-6 (weeks), Summer, <b>PGR</b> paclobutrazol 2-3 ppm Drench	Avoid using daminozide on Lime Bicolor and Blackberry, as this may impact flower colour. Options include paclobutrazol or flurprimidol.
PETUNIA <i>Petunia x hybrida</i> <b>Supercascade F<sub>1</sub> Series</b>	288	(day) 62-70°F (17-21°C) (night) 55-65°F (13-18°C)	5.5-6.2 pH 1.2-1.5 mmhos/cm	Facultative Long Day	<b>Cell Pack</b> , 1 (ppp), 5-6 (weeks), Spring, <b>PGR</b> daminozide 2,500-5,000 ppm Spray <b>10" Pot or HB/3 Gallon</b> , 3 (ppp), 6-7 (weeks), Spring, <b>PGR</b> daminozide 2,500-3,500 ppm Spray	
PETUNIA (DOUBLE) <i>Petunia x hybrida</i> <b>Bonanza F<sub>1</sub> Series</b>	288	(day) 65-72°F (18-22°C) (night) 60-62°F (16-17°C)	5.8-6.3 pH 1.5-2.0 mmhos/cm	Facultative Long Day	<b>5"/6"/1 Gallon</b> , 1 (ppp), 5-6 (weeks), Spring <b>5"/6"/1 Gallon</b> , 2-3 (ppp), 7-8 (weeks), Spring	Maintain light levels as high as possible (4,000 to 7,000 f.c.). Sensitive to overwatering; allow media to dry slightly before watering. Controlling Height: Once plants are rooted to the sides of the containers, they can be allowed to wilt prior to irrigation to provide some height control. Height can also be controlled by withholding fertilizer, especially phosphorus and ammonium-based nitrogen. Petunias are responsive to day/night temperature differential (DIF), and are shorter with a negative DIF. Florel will promote lateral branching when applied once plants are established. Petunias respond to both B-Nine and Bonzi. A one-time Bonzi drench is effective. Varieties may respond differently to growth regulators.
PETUNIA (DOUBLE) <i>Petunia x hybrida</i> <b>Double Cascade F<sub>1</sub> Series</b>	288	(day) 65-72°F (18-22°C) (night) 60-62°F (16-17°C)	5.8-6.3 pH 1.5-2.0 mmhos/cm	Facultative Long Day	<b>4"/4.5"/Quart</b> , 1 (ppp), 6-7 (weeks), Spring <b>5"/6"/1 Gallon</b> , 2-3 (ppp), 8-9 (weeks), Spring	Maintain light levels as high as possible (4,000 to 7,000 f.c.). Sensitive to overwatering; allow media to dry slightly before watering. Controlling Height: Once plants are rooted to the sides of the containers, they can be allowed to wilt prior to irrigation to provide some height control. Height can also be controlled by withholding fertilizer, especially phosphorus and ammonium-based nitrogen. Petunias are responsive to day/night temperature differential (DIF), and are shorter with a negative DIF. Florel will promote lateral branching when applied once plants are established. Petunias respond to both B-Nine and Bonzi. A one-time Bonzi drench is effective. Varieties may respond differently to growth regulators.
PETUNIA (DOUBLE) <i>Petunia x hybrida</i> <b>Double Madness® F<sub>1</sub> Series</b>	288	(day) 65-72°F (18-22°C) (night) 60-62°F (16-17°C)	5.5-6.3 pH 1.5-2.0 mmhos/cm	Facultative Long Day	<b>4"/4.5"/Quart</b> , 1 (ppp), 5-6 (weeks), Spring <b>5"/6"/1 Gallon</b> , 2-3 (ppp), 7-8 (weeks), Spring	Maintain light levels as high as possible (4,000 to 7,000 f.c.). Sensitive to overwatering; allow media to dry slightly before watering. Controlling Height: Once plants are rooted to the sides of the containers, they can be allowed to wilt prior to irrigation to provide some height control. Height can also be controlled by withholding fertilizer, especially phosphorus and ammonium-based nitrogen. Petunias are responsive to day/night temperature differential (DIF), and are shorter with a negative DIF. Florel will promote lateral branching when applied once plants are established. Petunias respond to both B-Nine and Bonzi. A one-time Bonzi drench is effective. Varieties may respond differently to growth regulators.

CLASS/SERIES	RECOMMENDED PLUG SIZE	GROWING ON TEMPERATURE (DAYS/NIGHTS)	TARGET MEDIA PH/EC	DAYLENGTH	FINISHING PROGRAMS	KEY TIPS
PETUNIA (DOUBLE) <i>Petunia x hybrida</i> <b>Duo F<sub>1</sub> Series</b>	288	(day) 65-72°F (18-22°C) (night) 60-62°F (16-17°C)	5.5-6.3 pH 1.5-2.0 mmhos/cm	Facultative Long Day	4"/4.5"/Quart, 1 (ppp), 5-6 (weeks), Spring 5"/6"/1 Gallon, 2-3 (ppp), 7-8 (weeks), Spring	Maintain light levels as high as possible (4,000 to 7,000 f.c.). Sensitive to overwatering; allow media to dry slightly before watering. Controlling Height: Once plants are rooted to the sides of the containers, they can be allowed to wilt prior to irrigation to provide some height control. Height can also be controlled by withholding fertilizer, especially phosphorus and ammonium-based nitrogen. Petunias are responsive to day/night temperature differential (DIF), and are shorter with a negative DIF. Florel will promote lateral branching when applied once plants are established. Petunias respond to both B-Nine and Bonzi. A one-time Bonzi drench is effective. Varieties may respond differently to growth regulators.
PETUNIA (DOUBLE) <i>Petunia x hybrida</i> <b>Glorious F<sub>1</sub> Series</b>	288	(day) 65-72°F (18-22°C) (night) 60-62°F (16-17°C)	5.5-6.3 pH 1.5-2.0 mmhos/cm	Facultative Long Day	4"/4.5"/Quart, 1 (ppp), 6-7 (weeks), Spring 5"/6"/1 Gallon, 2-3 (ppp), 7-8 (weeks), Spring	Maintain light levels as high as possible (4,000 to 7,000 f.c.). Sensitive to overwatering; allow media to dry slightly before watering. Controlling Height: Once plants are rooted to the sides of the containers, they can be allowed to wilt prior to irrigation to provide some height control. Height can also be controlled by withholding fertilizer, especially phosphorus and ammonium-based nitrogen. Petunias are responsive to day/night temperature differential (DIF), and are shorter with a negative DIF. Florel will promote lateral branching when applied once plants are established. Petunias respond to both B-Nine and Bonzi. A one-time Bonzi drench is effective. Varieties may respond differently to growth regulators.
PETUNIA (DOUBLE) <i>Petunia x hybrida</i> <b>Pirouette F<sub>1</sub> Series</b>	288	(day) 65-72°F (18-22°C) (night) 60-62°F (16-17°C)	5.5-6.3 pH 1.5-2.0 mmhos/cm	Facultative Long Day	4"/4.5"/Quart, 1 (ppp), 6-7 (weeks), Spring 5"/6"/1 Gallon, 2-3 (ppp), 7-8 (weeks), Spring	Maintain light levels as high as possible (4,000 to 7,000 f.c.). Sensitive to overwatering; allow media to dry slightly before watering. Controlling Height: Once plants are rooted to the sides of the containers, they can be allowed to wilt prior to irrigation to provide some height control. Height can also be controlled by withholding fertilizer, especially phosphorus and ammonium-based nitrogen. Petunias are responsive to day/night temperature differential (DIF), and are shorter with a negative DIF. Florel will promote lateral branching when applied once plants are established. Petunias respond to both B-Nine and Bonzi. A one-time Bonzi drench is effective. Varieties may respond differently to growth regulators.
PETUNIA (DOUBLE) <i>Petunia x hybrida</i> <b>Valentine F<sub>1</sub></b>	288	(day) 65-72°F (18-22°C) (night) 60-62°F (16-17°C)	5.5-6.3 pH 1.5-2.0 mmhos/cm	Facultative Long Day	4"/4.5"/Quart, 1 (ppp), 6-7 (weeks), Spring 5"/6"/1 Gallon, 2-3 (ppp), 7-8 (weeks), Spring	Maintain light levels as high as possible (4,000 to 7,000 f.c.). Sensitive to overwatering; allow media to dry slightly before watering. Controlling Height: Once plants are rooted to the sides of the containers, they can be allowed to wilt prior to irrigation to provide some height control. Height can also be controlled by withholding fertilizer, especially phosphorus and ammonium-based nitrogen. Petunias are responsive to day/night temperature differential (DIF), and are shorter with a negative DIF. Florel will promote lateral branching when applied once plants are established. Petunias respond to both B-Nine and Bonzi. A one-time Bonzi drench is effective. Varieties may respond differently to growth regulators.
PETUNIA (SPREADING) <i>Petunia x hybrida</i> <b>Combo Blue F<sub>1</sub></b>	288 128	(day) 61-75°F (16-24°C) (night) 57-65°F (14-18°C)	5.8-6.2 pH 1.5-2.0 mmhos/cm	Facultative Long Day Minimum Daylength Required: 10.5 hours		See Plug & Play culture recommendations for finishing Combo Blue. Combo Blue is cold durable.
PETUNIA (SPREADING) <i>Petunia x hybrida</i> <b>Easy Wave® F<sub>1</sub> Series</b>	288 128	(day) 61-75°F (16-24°C) (night) 57-65°F (14-18°C)	5.5-6.2 pH 1.5-2.0 mmhos/cm	Facultative Long Day Minimum Daylength Requirement By Variety: 10 hours: Berry Velour, Pink Passion, Burgundy Star, Coral Reef, Neon Rose, Rosy Dawn, Silver, Violet Improved, White, Yellow 10.5 hours: Blue, Burgundy Velour 11 hours: Pink, Plum Vein, Red Improved, Red Velour	306 Pack, 1 (ppp), 6-7 (weeks), Spring, PGR paclobutrazol 3-5 ppm Drench 4"/4.5"/Quart, 1 (ppp), 6-7 (weeks), Spring, PGR paclobutrazol 3-5 ppm Drench 10" Pot or HB/3 Gallon, 3-4 (ppp), 8-9 (weeks), Spring, PGR paclobutrazol 3-5 ppm Drench 306 Pack, 1 (ppp), 4-5 (weeks), Summer, PGR paclobutrazol 3-5 ppm Drench 4"/4.5"/Quart, 1 (ppp), 4-5 (weeks), Summer, PGR paclobutrazol 3-5 ppm Drench 10" Pot or HB/3 Gallon, 3-4 (ppp), 6-7 (weeks), Summer, PGR paclobutrazol 3-5 ppm Drench	Daminozide spray of 3,500 to 5,000 ppm 7 to 10 days after transplant promotes branching and controls early stretch. Can be grown as low as 50°F (10°C). Crop timing is related to average temperature when grown under proper daylength. Plants will take longer to flower when grown in cooler conditions. Recommended DLI range of 12 to 20 mol·m <sup>-2</sup> ·d <sup>-1</sup> . Burgundy Velour, Plum Vein and Red Velour are more vigorous within the Easy Wave group. They can take higher rates of paclobutrazol, 1 to 2 ppm more. Cold-Durable Varieties: Berry Velour, Blue, Burgundy Star, Burgundy Velour, Coral Reef, Neon Rose, Pink Passion, Pink, Plum Vein, Red Improved, Red Velour, Silver, Violet Improved, White, Yellow Cold-Sensitive Variety: Rosy Dawn
PETUNIA (SPREADING) <i>Petunia x hybrida</i> <b>Shock Wave® F<sub>1</sub> Series</b>	288 128	(day) 61-75°F (16-24°C) (night) 57-65°F (14-18°C)	5.8-6.2 pH 1.5-2.0 mmhos/cm	Facultative Long Day Minimum Daylength Requirements By Variety: 10 hours: Coral Crush, Denim, Pink Shades, Red, Yellow 10.5 hours: Coconut, Pink Vein, Deep Purple, Rose	306 Pack, 1 (ppp), 5-6 (weeks), Spring, PGR paclobutrazol 3-5 ppm Drench 4"/4.5"/Quart, 1 (ppp), 5-6 (weeks), Spring, PGR paclobutrazol 3-5 ppm Drench 10" Pot or HB/3 Gallon, 3-4 (ppp), 6-8 (weeks), Spring, PGR paclobutrazol 3-5 ppm Drench 306 Pack, 1 (ppp), 4-5 (weeks), Summer, PGR paclobutrazol 3-5 ppm Drench 4"/4.5"/Quart, 1 (ppp), 4-5 (weeks), Summer, PGR paclobutrazol 3-5 ppm Drench 10" Pot or HB/3 Gallon, 3-4 (ppp), 5-6 (weeks), Summer, PGR paclobutrazol 3-5 ppm Drench	Daminozide spray of 2,500 to 5,000 ppm 7 to 10 days after transplant promotes branching and controls early stretch. Can be grown as low as 50°F (10°C). Crop timing is related to average temperature when grown under proper daylength. Plants will take longer to flower when grown in cooler conditions. Recommended DLI range of 12 to 20 mol·m <sup>-2</sup> ·d <sup>-1</sup> . Cold-Durable Varieties: Coconut, Denim, Pink Shades, Pink Vein, Yellow Cold-Sensitive Varieties: Coral Crush, Deep Purple, Red, Rose
PETUNIA (SPREADING) <i>Petunia x hybrida</i> <b>Tidal Wave® F<sub>1</sub> Series</b>	288 128	(day) 61-75°F (16-24°C) (night) 57-65°F (14-18°C)	5.5-6.2 pH 1.5-2.0 mmhos/cm	Facultative Long Day Minimum Daylength Requirement by Variety: 12 hours: Cherry, Hot Pink, Purple, Red Velour, Silver	5"/6"/1 Gallon, 1-3 (ppp), 6-8 (weeks), Spring, PGR paclobutrazol 5-8 ppm Drench 8"/2 Gallon, 1-3 (ppp), 6-8 (weeks), Spring, PGR paclobutrazol 5-8 ppm Drench 5"/6"/1 Gallon, 1-3 (ppp), 4-7 (weeks), Summer, PGR paclobutrazol 5-8 ppm Drench 8"/2 Gallon, 1-3 (ppp), 4-7 (weeks), Summer, PGR paclobutrazol 5-8 ppm Drench	Daminozide spray of 3,500 to 5,000 ppm 7 to 10 days after transplant promotes branching and controls early stretch. Can be grown as low as 50°F (10°C). Crop timing is related to average temperature when grown under proper daylength. Plants will take longer to flower when grown in cooler conditions. Recommended DLI range of 12 to 20 mol·m <sup>-2</sup> ·d <sup>-1</sup> . Cold-Durable Varieties: Red Velour, Silver
PETUNIA (SPREADING) <i>Petunia x hybrida</i> <b>Wave® F<sub>1</sub> Series</b>	288 128	(day) 61-75°F (16-24°C) (night) 57-65°F (14-18°C)	5.5-6.2 pH 1.5-2.0 mmhos/cm	Facultative Long Day Minimum Daylength Requirement by Variety: 11 hours: Blue 11.5 hours: Purple 12 hours: Lavender, Misty Lilac, Pink, Purple Classic, Rose	5"/6"/1 Gallon, 1 (ppp), 7-9 (weeks), Spring, PGR paclobutrazol 5-8 ppm Drench 10" Pot or HB/3 Gallon, 3-4 (ppp), 8-10 (weeks), Spring, PGR paclobutrazol 5-8 ppm Drench 5"/6"/1 Gallon, 1 (ppp), 5-7 (weeks), Summer, PGR paclobutrazol 5-8 ppm Drench 10" Pot or HB/3 Gallon, 3-4 (ppp), 6-8 (weeks), Summer, PGR paclobutrazol 5-8 ppm Drench	Daminozide spray of 3,500 to 5,000 ppm 7 to 10 days after transplant promotes branching and controls early stretch. Can be grown as low as 50°F (10°C). Crop timing is related to average temperature when grown under proper daylength. Plants will take longer to flower when grown in cooler conditions. Recommended DLI range of 12 to 20 mol·m <sup>-2</sup> ·d <sup>-1</sup> . Cold-Durable Varieties: Blue, Lavender, Pink, Purple, Purple Classic, Rose
PHLOX <i>Phlox drummondii</i> <b>21st Century F<sub>1</sub> Series</b>	288	(day) 60-70°F (16-21°C) (night) 50-62°F (10-17°C)	5.5-6.2 pH 1.0-1.5 mmhos/cm	Day Neutral	306 Pack, 1 (ppp), 6 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 6 (weeks), Spring 5"/6"/1 Gallon, 3 (ppp), 7-8 (weeks), Spring	If necessary, paclobutrazol 7.5 to 20 ppm Spray can be applied. Application rate and frequency of applications depends upon growth rate. Daminozide 2,500 ppm Spray is also effective.

CLASS/SERIES	RECOMMENDED PLUG SIZE	GROWING ON TEMPERATURE (DAYS/NIGHTS)	TARGET MEDIA PH/EC	DAYLENGTH	FINISHING PROGRAMS	KEY TIPS
PHLOX <i>Phlox drummondii</i> <b>Ethnie Series</b>	288	(day) 60-68°F (16-20°C) (night) 55-62°F (13-17°C)	5.5-6.2 pH 1.0-1.5 mmhos/cm	Day Neutral	Cell Pack, 1 (ppp), 5-6 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 6-7 (weeks), Spring	If necessary, paclobutrazol 7.5 to 20 ppm Spray can be applied. Application rate and frequency of applications depends upon growth rate. Daminozide 2,500 ppm Spray is also effective.
PHLOX <i>Phlox drummondii</i> <b>Grammy Pink &amp; White F<sub>1</sub></b>	288	(day) 60-70°F (16-21°C) (night) 50-62°F (10-17°C)	5.5-6.2 pH 1.0-1.5 mmhos/cm	Day Neutral	306 Pack, 1 (ppp), 6 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 6 (weeks), Spring 5"/6"/1 Gallon, 3 (ppp), 7-8 (weeks), Spring	Genetically dwarf variety normally does not require PGR. If required, paclobutrazol 7.5 to 10.0 ppm Spray can be applied. Daminozide 2,500 ppm Spray is also effective.
PHLOX <i>Phlox drummondii</i> <b>Promise Series</b>	288	(day) 60-68°F (16-20°C) (night) 55-62°F (13-17°C)	5.5-6.2 pH 1.0-1.5 mmhos/cm	Day Neutral	Cell Pack, 1 (ppp), 6-7 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 7-8 (weeks), Spring	If necessary, paclobutrazol 7.5 to 20 ppm Spray can be applied. Application rate and frequency of applications depends upon growth rate. Daminozide 2,500 ppm Spray is also effective.
PLECTRANTHUS <i>Plectranthus argentatus</i> <b>Silver Crest</b>	288	(day) 64-80°F (18-27°C) (night) 61-68°F (16-20°C)	5.8-6.2 pH 1.2-1.5 mmhos/cm	Under short days, plants will initiate flowers.	4"/4.5"/Quart, 1 (ppp), 4-6 (weeks), Spring, PGR daminozide 2,500-5,000 ppm Spray 10" Pot or HB/3 Gallon, 3 (ppp), 6-7 (weeks), Spring, PGR daminozide 2,500-5,000 ppm Spray	Does not require a pinch. Due to directional stem arching, it is advisable to position plugs with growing shoot facing outward, toward the outside of the container. Repeat PGR application if needed. Higher concentrations of PGR used for small pot and/or low light production.
PLECTRANTHUS <i>Plectranthus argentatus</i> <b>Silver Shield</b>	288	(day) 64-80°F (18-27°C) (night) 61-68°F (16-20°C)	5.8-6.2 pH 1.2-1.5 mmhos/cm	Under short days, plants will initiate flowers.	4"/4.5"/Quart, 1 (ppp), 8-9 (weeks), Spring, PGR daminozide 2,500-5,000 ppm Spray 5"/6"/1 Gallon, 1-2 (ppp), 9-10 (weeks), Spring, PGR daminozide 2,500-5,000 ppm Spray	Does not require a pinch. Repeat PGR application if needed. Higher concentration of PGR is used for small pot and/or low light production.
PORTULACA <i>Portulaca grandiflora</i> <b>Happy Hour F<sub>1</sub> Series</b>	288	(day) 68-76°F (20-24°C) (night) 65-67°F (18-19°C)	5.5-6.2 pH 1.5-2.0 mmhos/cm	Day Neutral If transplanting plugs when daylength is shorter than 10 hours and 30 minutes, provide long day conditions.	Cell Pack, 36 (ppp), 5 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 5-6 (weeks), Spring	PGRs are generally not needed unless grown under very warm conditions. Height can be controlled by allowing the soil to dry thoroughly between watering. Plants can be allowed to wilt slightly after the roots reach the side of the container. Height can also be controlled by withholding fertilizer, especially phosphorus and ammonium-based nitrogen.
PORTULACA <i>Portulaca grandiflora</i> <b>Happy Trails F<sub>1</sub> Series</b>	288	(day) 68-76°F (20-24°C) (night) 65-67°F (18-19°C)	5.5-6.2 pH 1.5-2.0 mmhos/cm	Day Neutral If transplanting plugs when daylength is shorter than 10 hours, provide long day conditions.	Cell Pack, 36 (ppp), 5 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 5-6 (weeks), Spring	PGRs are generally not needed unless grown under very warm conditions. Height can be controlled by allowing the soil to dry thoroughly between watering. Plants can be allowed to wilt slightly after the roots reach the side of the container. Height can also be controlled by withholding fertilizer, especially phosphorus and ammonium-based nitrogen.
PRIMULA <i>Primula acaulis</i> <b>Heritage Crème F<sub>1</sub></b>	288	(day) 55-60°F (13-16°C) (night) 50-55°F (10-13°C)	5.5-6.2 pH 1.0-1.2 mmhos/cm	Facultative Long Day	5"/6"/1 Gallon, 1 (ppp), 15-17 (weeks), Autumn, PGR daminozide 2,500-5,000 ppm Spray	Drop temperature after week 5 (when plant has 10 established leaves) to 45 to 48°F (7 to 9°C) day and 35 to 45°F (2° to 7°C) night for bud initiation. After week 11, go back up to growing temperatures for flower development and forcing. Plants can be held at 40 to 45°F (5 to 7°C) for later forcing. Growing-on time in weeks depends on how large a plant is required. A large plant requires a longer time at 60 to 65°F (16 to 18°C) nights. From bud visibility to first opening of flower is approximately 4 to 5 weeks, depending on temperature.
PRIMULA <i>Primula acaulis</i> <b>Optic F<sub>1</sub> Series</b>	288	(day) 55-60°F (13-16°C) (night) 50-55°F (10-13°C)	5.5-6.2 pH 1.0-1.2 mmhos/cm	Facultative Long Day	4"/4.5"/Quart, 1 (ppp), 13-15 (weeks), Autumn, PGR daminozide 2,500-5,000 ppm Spray	Vernalization can be done when plants have 6 to 10 leaves and a well-established root system. Temperature below 50°F/10°C for 5 to 6 weeks is recommended to get uniform initiation of flower buds. After vernalization go back to recommended day and night temperatures. From bud visibility to first opening of flower is approximately 3 to 4 weeks, depending on temperatures. Optic series needs less cold to initiate flowers compared to competitive series. Vernalization is not necessary for flowering but will improve crop scheduling and uniformity. Keep plants away from Botrytis. Plants are standing often in conditions with low temperatures and high humidity. To avoid Botrytis, make sure that the greenhouse is well-ventilated, and avoid watering and spraying on dark and cold days. It is best to water or spray early in the day on days with brighter light levels. Try to keep foliage of the plants dry as much as possible.
PRIMULA <i>Primula acaulis</i> <b>Primlet® Series</b>	288	(day) 55-60°F (13-16°C) (night) 50-55°F (10-13°C)	5.5-6.2 pH 1.0-1.2 mmhos/cm	Facultative Long Day	5"/6"/1 Gallon, 1 (ppp), 15-17 (weeks), Autumn, PGR daminozide 2,500-5,000 ppm Spray	Drop temperature after week 5 (when plant has 10 established leaves) to 45 to 48°F (7 to 9°C) day and 35 to 45°F (2° to 7°C) night for bud initiation. After week 11, go back up to growing temperatures for flower development and forcing. Plants can be held at 40 to 45°F (5 to 7°C) for later forcing. Growing-on time in weeks depends on how large a plant is required. A large plant requires a longer time at 60 to 65°F (16 to 18°C) nights. From bud visibility to first opening of flower is approximately 4 to 5 weeks, depending on temperature.
PURSLANE <i>Portulaca oleracea</i> <b>Toucan Series</b>	288	(day) 68-75°F (20-24°C) (night) 65-68°F (18-20°C)	6.0-6.5 pH 1.5-2.0 mmhos/cm	Day Neutral	Cell Pack, 1 (ppp), 8-10 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 8-10 (weeks), Spring 5"/6"/1 Gallon, 2-3 (ppp), 8-10 (weeks), Spring	PGR treatment not needed if produced under low feed, dry watering and high-light conditions. If necessary, Topflor (flurprimidol) 30 ppm (7.9 ml/l, 0.38% formulation) spray can be used at 1 week after transplant. Repeat the spray 2 weeks later. Or Bonzi (paclobutrazol) 5 ppm (1.3 ml/l, 0.4% formulation) drench can be used at 1 week after transplant.
RUPELLIA <i>Ruellia brittoniana</i> <b>Southern Star Series</b>	288	(day) 68-75°F (20-24°C) (night) 65-68°F (18-20°C)	6.0-6.5 pH 1.5-2.0 mmhos/cm	Facultative Short Day	Cell Pack, 1 (ppp), 10 (weeks), Late Spring 4"/4.5"/Quart, 1 (ppp), 10 (weeks), Late Spring 5"/6"/1 Gallon, 3 (ppp), 10 (weeks), Late Spring 5"/6"/1 Gallon, 3 (ppp), 8 (weeks), Summer	
SALVIA <i>Salvia splendens</i> <b>Flare</b>	288	(day) 68-74°F (20-23°C) (night) 64-68°F (18-20°C)	5.5-5.8 pH 1.2-1.5 mmhos/cm	Facultative Long Day	Cell Pack, 1 (ppp), 4-5 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 4-5 (weeks), Spring	Salvia is very sensitive to high salt during early plug stages.
SALVIA <i>Salvia splendens</i> <b>Lighthouse Series</b>	288	(day) 68-74°F (20-23°C) (night) 64-68°F (18-20°C)	5.5-5.8 pH 1.2-1.5 mmhos/cm	Facultative Long Day	Cell Pack, 1 (ppp), 4-5 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 4-5 (weeks), Spring	Salvia is very sensitive to high salt during early plug stages.

CLASS/SERIES	RECOMMENDED PLUG SIZE	GROWING ON TEMPERATURE (DAYS/NIGHTS)	TARGET MEDIA PH/EC	DAYLENGTH	FINISHING PROGRAMS	KEY TIPS
SALVIA <i>Salvia splendens</i> <b>Red Hot Sally II</b>	288	(day) 68-74°F (20-23°C) (night) 64-68°F (18-20°C)	5.5-5.8 pH 1.2-1.5 mmhos/cm	Facultative Long Day	<b>Cell Pack</b> , 1 (ppp), 4-5 (weeks), Spring <b>4"/4.5"/Quart</b> , 1 (ppp), 4-5 (weeks), Spring	Salvia is very sensitive to high salt during early plug stages.
SALVIA <i>Salvia splendens</i> <b>Scarlet King</b>	288	(day) 68-74°F (20-23°C) (night) 64-68°F (18-20°C)	5.5-5.8 pH 1.2-1.5 mmhos/cm	Facultative Long Day	<b>Cell Pack</b> , 1 (ppp), 4-5 (weeks), Spring	Salvia is very sensitive to high salt during early plug stages.
SALVIA <i>Salvia splendens</i> <b>Vista Series</b>	288	(day) 68-74°F (20-23°C) (night) 64-68°F (18-20°C)	5.5-5.8 pH 1.2-1.5 mmhos/cm	Facultative Long Day	<b>Cell Pack</b> , 1 (ppp), 4-5 (weeks), Spring <b>4"/4.5"/Quart</b> , 1 (ppp), 4-5 (weeks), Spring	Salvia is very sensitive to high salt during early plug stages.
SALVIA INTERSPECIFIC <i>Salvia longispicata x farinacea</i> <b>Big Blue</b>	288 128	(day) 68-78°F (20-26°C) (night) 64-68°F (18-20°C)	5.8-6.2 pH 1.2-1.5 mmhos/cm	Facultative Long Day Crop schedule listed reflects seasonal natural daylength in the northern U.S. Best Spring finish requires lighting to 14-hour critical daylength for most uniform flowering response. Use daylength extension only, not night interruption. A pre-lit 72 cell will accelerate flowering initiation, so the crop can be finished under 14-hour daylength for early June in 13-14 weeks. High DLI can speed flowering when daylength is less than 14 hours. Please see culture research link on our website.	<b>5"/6"/1 Gallon</b> , 1 (ppp), 16-18 (weeks), Late Spring, <b>PGR</b> daminozide 2,500 ppm Spray <b>5"/6"/1 Gallon</b> , 1 (ppp), 15-16 (weeks), Summer, <b>PGR</b> daminozide 2,500 ppm Spray	Production of Salvia Big Blue needs to be pinched at 14-21 days after transplant, leaving 4 nodes. Finishing in gallons preferred for late Spring and Summer for easiest finish in the best daylength for flowering in season. May be finished in smaller pot sizes without flowers in 9 weeks for fast landscape input use. Repeat PGR treatments of daminozide in finish as needed. Paclobutrazol may be used instead of daminozide in final stages, starting 3 weeks after transplant, at rates of 3-5 ppm drench (northern U.S.).
SCUTELLARIA <i>Scutellaria javanica</i> <b>Veranda</b>	288	(day) 72-78°F (22-26°C) (night) 66-68°F (19-20°C)	5.5-6.2 pH 1.5-2.0 mmhos/cm	Day Neutral	<b>306 Pack</b> , 1 (ppp), 7-10 (weeks), Spring, <b>PGR</b> daminozide/chlormequat chloride tank mix 2,500/1,000 ppm Spray <b>4"/4.5"/Quart</b> , 1 (ppp), 8-11 (weeks), Spring, <b>PGR</b> daminozide/chlormequat chloride tank mix 2,500/1,000 ppm Spray <b>5"/6"/1 Gallon</b> , 3 (ppp), 9-12 (weeks), Spring, <b>PGR</b> daminozide/chlormequat chloride tank mix 2,500/1,000 ppm Spray	Heat-loving crop; crop time is very dependent on temperature.
SNAPDRAGON <i>Antirrhinum majus</i> <b>Rocket F<sub>1</sub> Series</b>	288	(day) 65-80°F (18-27°C) (night) 55-60°F (13-16°C)	5.8-6.2 pH 1.5-2.0 mmhos/cm	Facultative Long Day	<b>Field grown</b> , 3 (ppp), 13-16 (weeks), Spring	Also see Cut Flower section for more details.
SNAPDRAGON <i>Antirrhinum majus</i> <b>Snapshot F<sub>1</sub> Series</b>	288	(day) 55-70°F (13-21°C) (night) 45-55°F (7-13°C)	5.5-6.2 pH 1.5-2.0 mmhos/cm	Facultative Long Day	<b>Cell Pack</b> , 1 (ppp), 6 (weeks), Early Spring <b>4"/4.5"/Quart</b> , 1 (ppp), 6 (weeks), Early Spring	Controlling Height: Once plants are rooted to the sides of the containers, they can be allowed to dry slightly prior to irrigation. Withhold fertilizer, especially phosphorus and ammonium-based N. Snapdragons are responsive to day/night temperature differential (DIF) and are shorter with a negative DIF. When grown as recommended under cool temperatures and high light, no growth regulators should be needed. B-Nine, Bonzi and Sumagic are effective in controlling height in snapdragons, but may delay flowering and will lead to less uniform flowering time.
SNAPDRAGON <i>Antirrhinum majus</i> <b>Solstice F<sub>1</sub> Series</b>	288	(day) 55-70°F (13-21°C) (night) 45-55°F (7-13°C)	5.5-6.2 pH 1.5-2.0 mmhos/cm	Facultative Long Day	<b>Cell Pack</b> , 1 (ppp), 4-6 (weeks), Early Spring <b>4"/4.5"/Quart</b> , 1 (ppp), 4-6 (weeks), Early Spring <b>5"/6"/1 Gallon</b> , 3 (ppp), 4-6 (weeks), Early Spring <b>Cell Pack</b> , 1 (ppp), 9-10 (weeks), Autumn <b>4"/4.5"/Quart</b> , 1 (ppp), 9-10 (weeks), Autumn <b>5"/6"/1 Gallon</b> , 3 (ppp), 9-10 (weeks), Autumn	
SPILANTHES <i>Acmella oleracea</i> <b>Peek-A-Boo</b>	288	(day) 65-75°F (18-24°C) (night) 62-65°F (17-18°C)	5.5-6.5 pH 1.5-2.0 mmhos/cm	Day Neutral	<b>4"/4.5"/Quart</b> , 1 (ppp), 7-8 (weeks), Spring, <b>PGR</b> paclobutrazol 15-30 ppm Spray <b>5"/6"/1 Gallon</b> , 3 (ppp), 7-8 (weeks), Spring, <b>PGR</b> paclobutrazol 15-30 ppm Spray	
STOCK <i>Matthiola incana</i> <b>Vintage Series</b>	288	(day) 60-70°F (16-21°C) (night) 50-55°F (10-13°C)	5.8-6.2 pH 1.5-2.0 mmhos/cm	Day Neutral	<b>Cell Pack</b> , 1 (ppp), 7-8 (weeks), Spring, <b>PGR</b> daminozide 2,500 ppm Spray <b>4"/4.5"/Quart</b> , 1 (ppp), 8-9 (weeks), Spring, <b>PGR</b> daminozide 2,500 ppm Spray	
TALINUM <i>Talinum paniculatum</i> <b>Limón</b>	288	(day) 66-74°F (19-23°C) (night) 62-66°F (17-19°C)	5.5-6.2 pH 1.2-1.5 mmhos/cm	Day Neutral	<b>306 Pack</b> , 1 (ppp), 4-5 (weeks), Spring <b>4"/4.5"/Quart</b> , 1 (ppp), 4-5 (weeks), Spring <b>5"/6"/1 Gallon</b> , 3 (ppp), 4-5 (weeks), Spring	For flowers, add 2 weeks to Finish Crop Time.
TALINUM <i>Talinum paniculatum</i> <b>Verde</b>	288	(day) 66-74°F (19-23°C) (night) 62-66°F (17-19°C)	5.5-6.2 pH 1.2-1.5 mmhos/cm	Day Neutral	<b>306 Pack</b> , 1 (ppp), 4-5 (weeks), Spring, <b>PGR</b> daminozide 2,500-3,500 ppm Spray <b>4"/4.5"/Quart</b> , 1 (ppp), 4-5 (weeks), Spring, <b>PGR</b> daminozide 2,500-3,500 ppm Spray <b>5"/6"/1 Gallon</b> , 3 (ppp), 4-5 (weeks), Spring, <b>PGR</b> daminozide 2,500-3,500 ppm Spray	For flowers, add 2 weeks to Finish Crop Time.
THUNBERGIA <i>Thunbergia alata</i> <b>Susie Series</b>	288	(day) 62-68°F (17-20°C) (night) 60-62°F (16-17°C)	5.8-6.2 pH 1.5-2.0 mmhos/cm	Day Neutral	<b>4"/4.5"/Quart</b> , 1 (ppp), 4-5 (weeks), Spring <b>5"/6"/1 Gallon</b> , 1 (ppp), 8-10 (weeks), Spring	
THYMOPHYLLA <i>Thymophylla tenuiloba</i> <b>Golden Dawn</b>	288	(day) 55-65°F (13-18°C) (night) 50-60°F (10-16°C)	6.5 pH 0.75-1.2 mmhos/cm	Facultative Long Day	<b>5"/6"/1 Gallon</b> , 3 (ppp), 7-8 (weeks), Spring	



CLASS/SERIES	RECOMMENDED PLUG SIZE	GROWING ON TEMPERATURE (DAYS/NIGHTS)	TARGET MEDIA PH/EC	DAYLENGTH	FINISHING PROGRAMS	KEY TIPS
TORENIA <i>Torenia fournieri</i> <b>Kauai Series</b>	288	(day) 65-70°F (18-21°C) (night) 62-64°F (17-18°C)	5.8-6.2 pH 1.5-2.0 mmhos/cm	Day Neutral	Cell Pack, 1 (ppp), 5-6 (weeks), Spring, PGR chlormequat chloride 500-700 ppm Spray 4"/4.5"/Quart, 1 (ppp), 6-7 (weeks), Spring, PGR chlormequat chloride 500-750 ppm Spray	No pinch needed. Growth Regulators: Cycocel (chlormequat) can be used at rate of 500 to 750 ppm (4.2 to 6.4 ml/l 11.8% formulation or 0.7 to 1.0 g/l of 75% formulation) at two weeks after transplant; repeat as necessary. Bonzi (paclobutrazol) 20 to 30 ppm (5.0 to 7.5 ml/l, 0.4% formulation) spray also works but is slightly less effective than Cycocel. Avoid using B-Nine/Alar or tank mix of B-Nine/Cycocel as B-Nine will bleach flower colour to become less intense. B-Nine will also delay flower timing.
VERBENA <i>Verbena x hybrida</i> <b>Quartz Series</b>	288	(day) 65-70°F (18-21°C) (night) 60°F (16°C)	5.5-6.2 pH 1.5-2.0 mmhos/cm	Facultative Long Day	Cell Pack, 1 (ppp), 6-8 (weeks), Spring Cell Pack, 1 (ppp), 5-7 (weeks), Summer	Growth Regulators: For warm climates B-Nine/Alar (daminozide) at 3,500 ppm applied as foliar spray or 2 applications of A-Rest (ancymidol) at 20 ppm as a foliar spray. For Northern European conditions 2 to 3 applications plus 3,200 B-Nine/Alar at 3,200 ppm plus Cycocel (chlormequat) at 375 ppm is recommended.
VERBENA <i>Verbena x hybrida</i> <b>Quartz XP Series</b>	288	(day) 65-70°F (18-21°C) (night) 60°F (16°C)	5.5-6.2 pH 1.5-2.0 mmhos/cm	Facultative Long Day	Cell Pack, 1 (ppp), 6-8 (weeks), Spring Cell Pack, 1 (ppp), 5-7 (weeks), Summer	Growth Regulators: For warm climates B-Nine/Alar (daminozide) at 3,500 ppm applied as foliar spray or 2 applications of A-Rest (ancymidol) at 20 ppm as a foliar spray. For Northern European conditions 2 to 3 applications plus 3,200 B-Nine/Alar at 3,200 ppm plus Cycocel (chlormequat) at 375 ppm is recommended.
VINCA <i>Catharanthus roseus</i> <b>Jams 'N Jellies Series</b>	288	(day) 75°F (24°C) (night) 65-68°F (18-20°C)	5.5-6.0 pH 1.5-2.0 mmhos/cm	Day Neutral	Cell Pack, 1 (ppp), 5-6 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 6-7 (weeks), Spring	Keep light as high as possible (DLI = 12 moles-m <sup>2</sup> -d <sup>-1</sup> ) while maintaining optimal production temperatures. Maintain even moisture and avoid excessive media and foliage wetness, as these conditions are favourable for disease incidence.
VINCA <i>Catharanthus roseus</i> <b>Mediterranean Series</b>	288	(day) 75°F (24°C) (night) 65-68°F (18-20°C)	5.5-6.0 pH 1.5-2.0 mmhos/cm	Day Neutral	4"/4.5"/Quart, 1 (ppp), 8-9 (weeks), Spring 10" Pot or HB/3 Gallon, 7 (ppp), 12-14 (weeks), Spring 12" Pot or HB/5 Gallon, 9 (ppp), 12-14 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 5-6 (weeks), Summer 10" Pot or HB/3 Gallon, 7 (ppp), 8-10 (weeks), Summer 12" Pot or HB/5 Gallon, 9 (ppp), 8-10 (weeks), Summer	Keep light as high as possible (DLI = 12 moles-m <sup>2</sup> -d <sup>-1</sup> ) while maintaining optimal production temperatures. Maintain even moisture and avoid excessive media and foliage wetness, as these conditions are favourable for disease incidence.
VINCA <i>Catharanthus roseus</i> <b>Mediterranean XP Series</b>	288	(day) 75°F (24°C) (night) 65-68°F (18-20°C)	5.5-6.0 pH 1.5-2.0 mmhos/cm	Day Neutral	4"/4.5"/Quart, 1 (ppp), 8-9 (weeks), Spring 10" Pot or HB/3 Gallon, 7 (ppp), 12-14 (weeks), Spring 12" Pot or HB/5 Gallon, 9 (ppp), 12-14 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 5-6 (weeks), Summer 10" Pot or HB/3 Gallon, 7 (ppp), 8-10 (weeks), Summer 12" Pot or HB/5 Gallon, 9 (ppp), 8-10 (weeks), Summer	Keep light as high as possible (DLI = 12 moles-m <sup>2</sup> -d <sup>-1</sup> ) while maintaining optimal production temperatures. Maintain even moisture and avoid excessive media and foliage wetness, as these conditions are favourable for disease incidence.
VINCA <i>Catharanthus roseus</i> <b>Pacifica XP Series</b>	288	(day) 75°F (24°C) (night) 65-68°F (18-20°C)	5.5-6.0 pH 1.5-2.0 mmhos/cm	Day Neutral	Cell Pack, 1 (ppp), 5-6 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 6-7 (weeks), Spring	Keep light as high as possible (DLI = 12 moles-m <sup>2</sup> -d <sup>-1</sup> ) while maintaining optimal production temperatures. Maintain even moisture and avoid excessive media and foliage wetness, as these conditions are favourable for disease incidence.
VINCA <i>Catharanthus roseus</i> <b>Tattoo Series</b>	288	(day) 75°F (24°C) (night) 65-68°F (18-20°C)	5.5-6.0 pH 1.5-2.0 mmhos/cm	Day Neutral	Cell Pack, 1 (ppp), 5-6 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 6-7 (weeks), Spring 5"/6"/1 Gallon, 1-3 (ppp), 6-8 (weeks), Spring	Keep light as high as possible (DLI = 12 moles-m <sup>2</sup> -d <sup>-1</sup> ) while maintaining optimal production temperatures. Maintain even moisture and avoid excessive media and foliage wetness, as these conditions are favourable for disease incidence. The Tattoo series displays the best colour contrast under warm conditions with higher light levels. When grown under cooler conditions and lower light levels, the colours will appear to be darker overall with less contrast; colours will brighten with increases in temperature and light.
VINCA <i>Catharanthus roseus</i> <b>Titan® F<sub>1</sub> Series</b>	288	(day) 75°F (24°C) (night) 65-68°F (18-20°C)	5.5-6.0 pH 1.5-2.0 mmhos/cm	Day Neutral	Cell Pack, 1 (ppp), 3-4 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 4-5 (weeks), Spring	Keep light as high as possible (DLI = 12 moles-m <sup>2</sup> -d <sup>-1</sup> ) while maintaining optimal production temperatures. Maintain even moisture, avoid excessive media and foliage wetness as these conditions are favourable for disease incidence.
VINCA <i>Catharanthus roseus</i> <b>Valiant F<sub>1</sub> Series</b>	288	(day) 75°F (24°C) (night) 65-68°F (18-20°C)	5.5-6.0 pH 1.5-2.0 mmhos/cm	Day Neutral	Cell Pack, 1 (ppp), 3-4 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 4-5 (weeks), Spring	Keep light as high as possible (DLI = 12 moles-m <sup>2</sup> -d <sup>-1</sup> ) while maintaining optimal production temperatures. Maintain even moisture and avoid excessive media and foliage wetness, as these conditions are favourable for disease incidence.
VIOLA <i>Viola cornuta</i> <b>Sorbet® F<sub>1</sub> Series</b>	288	(day) 60°F (16°C) (night) 50-55°F (10-13°C)	5.5-5.8 pH 1.5 mmhos/cm	Facultative Long Day	Cell Pack, 1 (ppp), 5-7 (weeks), Early Spring, PGR daminozide 1,500-2,500 ppm Spray 4"/4.5"/Quart, 1 (ppp), 5-7 (weeks), Early Spring, PGR daminozide 1,500-2,500 ppm Spray 5"/6"/1 Gallon, 3 (ppp), 5-7 (weeks), Early Spring, PGR daminozide 1,500-2,500 ppm Spray Cell Pack, 1 (ppp), 3 (weeks), Autumn, PGR daminozide 2,500-5,000 ppm Spray 4"/4.5"/Quart, 1 (ppp), 4-5 (weeks), Autumn, PGR daminozide 2,500-5,000 ppm Spray 5"/6"/1 Gallon, 3 (ppp), 3-4 (weeks), Autumn, PGR daminozide 2,500-5,000 ppm Spray	Adjust PGR rates and frequency of application depending on local conditions.

CLASS/SERIES	RECOMMENDED PLUG SIZE	GROWING ON TEMPERATURE (DAYS/NIGHTS)	TARGET MEDIA PH/EC	DAYLENGTH	FINISHING PROGRAMS	KEY TIPS
VIOLA <i>Viola cornuta</i> <b>Sorbet® XP F<sub>1</sub> Series</b>	288	(day) 60°F (16°C) (night) 50-55°F (10-13°C)	5.5-5.8 pH 1.5 mmhos/cm	Facultative Long Day	<b>Cell Pack</b> , 1 (ppp), 5-7 (weeks), Early Spring, <b>PGR</b> daminozide 1,500-2,500 ppm Spray <b>4"/4.5"/Quart</b> , 1 (ppp), 5-7 (weeks), Early Spring, <b>PGR</b> daminozide 1,500-2,500 ppm Spray <b>5"/6"/1 Gallon</b> , 3 (ppp), 5-7 (weeks), Early Spring, <b>PGR</b> daminozide 1,500-2,500 ppm Spray <b>Cell Pack</b> , 1 (ppp), 3 (weeks), Autumn, <b>PGR</b> daminozide 2,500-5,000 ppm Spray <b>4"/4.5"/Quart</b> , 1 (ppp), 4-5 (weeks), Autumn, <b>PGR</b> daminozide 2,500-5,000 ppm Spray <b>5"/6"/1 Gallon</b> , 3 (ppp), 3-4 (weeks), Autumn, <b>PGR</b> daminozide 2,500-5,000 ppm Spray	Adjust PGR rates and frequency of application depending on local conditions.
ZINNIA <i>Zinnia marylandica</i> <b>Double Zahara Series</b>	288	(day) 65-70°F (18-21°C) (night) 59-64°F (15-18°C)	5.5-6.0 pH 1.2-1.5 mmhos/cm	Facultative Short Day	<b>4"/4.5"/Quart</b> , 1 (ppp), 8-9 (weeks), Spring, <b>PGR</b> daminozide 3,500-5,000 ppm Spray <b>5"/6"/1 Gallon</b> , 3 (ppp), 8-9 (weeks), Spring, <b>PGR</b> daminozide 3,500-5,000 ppm Spray <b>4"/4.5"/Quart</b> , 1 (ppp), 5-6 (weeks), Summer, <b>PGR</b> daminozide 3,500-5,000 ppm Spray <b>5"/6"/1 Gallon</b> , 3 (ppp), 5-6 (weeks), Summer, <b>PGR</b> daminozide 3,500-5,000 ppm Spray	Flowers will be more double, with more intense colour, when grown under high light levels. Avoid excessive moisture on plants and flowers. Monitor for Botrytis.
ZINNIA <i>Zinnia angustifolia</i> <b>Star Series</b>	288	(day) 65-70°F (18-21°C) (night) 65-70°F (18-21°C)	5.5-6.0 pH 1.2-1.5 mmhos/cm	Day Neutral	<b>Cell Pack</b> , 1 (ppp), 5-6 (weeks), Spring <b>4"/4.5"/Quart</b> , 1 (ppp), 6-7 (weeks), Spring	Avoid excessive moisture on plants and flowers. Monitor for Botrytis.
ZINNIA <i>Zinnia elegans (syn. Zinnia violaceae)</i> <b>State Fair Series</b>	288	(day) 65-70°F (18-21°C) (night) 65-70°F (18-21°C)	5.5-6.0 pH 1.2-1.5 mmhos/cm	Facultative Short Day	<b>4"/4.5"/Quart</b> , 1 (ppp), 6-7 (weeks), Spring <b>5"/6"/1 Gallon</b> , 1 (ppp), 7-8 (weeks), Spring	Avoid excessive moisture on plants and flowers. Monitor for Botrytis.
ZINNIA <i>Zinnia marylandica</i> <b>UpTown Series</b>	288	(day) 65-70°F (18-21°C) (night) 60-65°F (16-18°C)	5.5-6.2 pH 1.2-1.5 mmhos/cm	Facultative Short Day	<b>4"/4.5"/Quart</b> , 1 (ppp), 8-9 (weeks), Spring, <b>PGR</b> daminozide 3,500 ppm Spray <b>5"/6"/1 Gallon</b> , 3 (ppp), 8-9 (weeks), Spring, <b>PGR</b> daminozide 3,500 ppm Spray <b>4"/4.5"/Quart</b> , 1 (ppp), 5-6 (weeks), Summer, <b>PGR</b> daminozide 3,500 ppm Spray <b>5"/6"/1 Gallon</b> , 3 (ppp), 5-6 (weeks), Summer, <b>PGR</b> daminozide 3,500 ppm Spray	Avoid excessive moisture on plants and flowers. Monitor for Botrytis.
ZINNIA <i>Zinnia marylandica</i> <b>Zahara® Series</b>	288	(day) 65-70°F (18-21°C) (night) 60-65°F (16-18°C)	5.5-6.2 pH 1.2-1.5 mmhos/cm	Facultative Short Day	<b>4"/4.5"/Quart</b> , 1 (ppp), 8-9 (weeks), Spring, <b>PGR</b> daminozide 3,500 ppm Spray <b>5"/6"/1 Gallon</b> , 3 (ppp), 8-9 (weeks), Spring, <b>PGR</b> daminozide 3,500 ppm Spray <b>4"/4.5"/Quart</b> , 1 (ppp), 5-6 (weeks), Summer, <b>PGR</b> daminozide 3,500 ppm Spray <b>5"/6"/1 Gallon</b> , 3 (ppp), 5-6 (weeks), Summer, <b>PGR</b> daminozide 3,500 ppm Spray	Avoid excessive moisture on plants and flowers. Monitor for Botrytis.
ZINNIA <i>Zinnia marylandica</i> <b>Zahara® XL Series</b>	288	(day) 65-70°F (18-21°C) (night) 60-65°F (16-18°C)	5.5-6.2 pH 1.2-1.5 mmhos/cm	Facultative Short Day	<b>4"/4.5"/Quart</b> , 1 (ppp), 8-9 (weeks), Spring, <b>PGR</b> daminozide 3,500 ppm Spray <b>5"/6"/1 Gallon</b> , 3 (ppp), 8-9 (weeks), Spring, <b>PGR</b> daminozide 3,500 ppm Spray <b>4"/4.5"/Quart</b> , 1 (ppp), 5-6 (weeks), Summer, <b>PGR</b> daminozide 3,500 ppm Spray <b>5"/6"/1 Gallon</b> , 3 (ppp), 5-6 (weeks), Summer, <b>PGR</b> daminozide 3,500 ppm Spray	Avoid excessive moisture on plants and flowers. Monitor for Botrytis.



**ANNUALS** PROPAGATION GUIDE P. 6 / FINISHING GUIDE P. 44

**POT PLANTS** PROPAGATION GUIDE P. 114 / FINISHING GUIDE P. 128

**CUT FLOWERS** PROPAGATION GUIDE P. 136 / FINISHING GUIDE P. 144

**HANDPICKED VEGETABLES & HERBS** PROPAGATION GUIDE P. 154 / FINISHING GUIDE P. 166

# perennials

**KieftSeed**

CLASS/SERIES	SEED FORM	RECOMMENDED PLUG SIZE	PLUG CROP WEEKS	SEEDS/ CELL	COVER SEED	DAYS TO GERMINATE	INITIAL MEDIA PH/EC	STAGE 1	STAGE 2	STAGE 3	STAGE 4	VERNALIZATION REQUIRED	KEY TIPS
AQUILEGIA <i>Aquilegia vulgaris</i> <b>Clementine Series</b>	PRM	288	7-8	2-3	Light cover	7-12	5.8-6.4 pH 0.75 mmhos/cm	(m) Level 4 (t) 68-72°F (20-22°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-72°F (20-22°C) (l) 2,500 f.c. (26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 65-68°F (18-20°C) (l) 2,500 f.c. (26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2 (t) 60-65°F (16-18°C) (l) 5,000 f.c. (53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Yes - duration of 10 to 12 weeks; juvenility min. 10 to 12 true leaves	Spray after sowing to prevent fungi.
AQUILEGIA <i>Aquilegia x hybrida</i> <b>Songbird F<sub>1</sub> Series</b>	RAW	288	6-8	1	Yes	10-14	5.8-6.4 pH 0.75 mmhos/cm	(m) Level 4 (t) 70-75°F (21-24°C) (l) Light (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 65-70°F (18-21°C) (l) 2,500 f.c. (26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 65-70°F (18-21°C) (l) 2,500 f.c. (26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2 (t) 60-65°F (16-18°C) (l) 5,000 f.c. (53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Yes - but vernalization temperature can go as high as 55°F (13°C) nights and 60°F (15°C) days; duration of 4 weeks at 41°F (5°C) or 6 weeks at 55°F (13°C); start cool treatment after 12 to 15-leaf stage	
AQUILEGIA <i>Aquilegia x hybrida</i> <b>Swan F<sub>1</sub> Series</b>	RAW	288	6-9	1	Yes	10-14	5.8-6.4 pH 0.75 mmhos/cm	(m) Level 4 (t) 70-75°F (21-24°C) (l) Light (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 65-70°F (18-21°C) (l) 2,500 f.c. (26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 65-70°F (18-21°C) (l) 2,500 f.c. (26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2 (t) 60-65°F (16-18°C) (l) 5,000 f.c. (53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Yes - but vernalization temperature can go as high as 55°F (13°C) nights and 60°F (15°C) days; duration of 4 weeks at 41°F (5°C) or 6 weeks at 55°F (13°C); start cool treatment after 12 to 15-leaf stage	
AQUILEGIA <i>Aquilegia vulgaris</i> <b>Winky Double Series</b>	RAW	288	7-8	2-3	Light cover	7-12	5.8-6.4 pH 0.75 mmhos/cm	(m) Level 4 (t) 68-72°F (20-22°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 65-68°F (18-20°C) (l) 2,500 f.c. (26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 65-68°F (18-20°C) (l) 2,500 f.c. (26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2 (t) 60-65°F (16-18°C) (l) 5,000 f.c. (53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Yes - duration of 8 to 10 weeks; juvenility min. 10 to 12 true leaves	
AQUILEGIA <i>Aquilegia vulgaris</i> <b>Winky Single Series</b>	RAW	288	7-8	2-3	Light cover	7-12	5.8-6.4 pH 0.75 mmhos/cm	(m) Level 4 (t) 68-72°F (20-22°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 65-68°F (18-20°C) (l) 2,500 f.c. (26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 65-68°F (18-20°C) (l) 2,500 f.c. (26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2 (t) 60-65°F (16-18°C) (l) 5,000 f.c. (53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Yes - duration of 8 to 10 weeks; juvenility min. 10 to 12 true leaves	
ARABIS <i>Arabis blepharophylla</i> <b>Spring Charm</b>	RAW	288	6-8	4	No	3-6	5.5-6.5 pH 0.75 mmhos/cm	(m) Level 4 (t) 68-72°F (20-22°C) (l) Optional	(m) Level 3-4 (t) 65-68°F (18-20°C) (l) 2,500 f.c. (26,900 Lux)	(m) Level 2-3 (t) 65-68°F (18-20°C) (l) 2,500 f.c. (26,900 Lux)	(m) Level 2 (t) 60-65°F (16-18°C) (l) 5,000 f.c. (53,800 Lux)	Yes - duration of 8 to 10 weeks from 7 to 8 true leaves onwards	
ARMERIA <i>Armeria pseudarmeria</i> <b>Ballerina Series</b>	RAW	288 128	6-8 13-15	2-4 2-4	No	3-6	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 60-65°F (16-18°C) (l) Optional	(m) Level 3-4 (t) 60-65°F (16-18°C) (l) 2,500 f.c. (26,900 Lux)	(m) Level 2-3 (t) 60-65°F (16-18°C) (l) 2,500 f.c. (26,900 Lux)	(m) Level 2 (t) 55-60°F (13-16°C) (l) 5,000 f.c. (53,800 Lux)	No	For Mother's Day forcing: See Perennials Forcing Guide
BELLIS <i>Bellis perennis</i> <b>Bellissima Series</b>	PEL	512	5-6	1-2	Yes	3-5	5.5-6.2 pH 0.5-0.75 mmhos/cm	(m) Level 4 (t) 65-72°F (18-22°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3 (t) 65-68°F (18-20°C) (l) 6-8 mol·m <sup>-2</sup> ·d <sup>-1</sup> (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 60-65°F (16-18°C) (l) 6-8 mol·m <sup>-2</sup> ·d <sup>-1</sup> (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2 (t) 60-65°F (16-18°C) (l) 6-8 mol·m <sup>-2</sup> ·d <sup>-1</sup> (f) 100 to 175 ppm N - 0.7 to 1.2 EC	No	Use a medium covering of coarse-grade vermiculite to improve seedling uniformity.
CAMPANULA <i>Campanula carpatica</i> <b>Rapido F<sub>1</sub> Series</b>	PEL	288 128	7-10 12-13	4 4	No	7-9	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4-5 (t) 65-72°F (18-22°C) (l) Light (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 65-68°F (18-20°C) (l) 6-8 mol·m <sup>-2</sup> ·d <sup>-1</sup> (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3 (t) 60-65°F (16-18°C) (l) 6-8 mol·m <sup>-2</sup> ·d <sup>-1</sup> (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2 (t) 60-65°F (16-18°C) (l) 6-8 mol·m <sup>-2</sup> ·d <sup>-1</sup> (f) 100 to 175 ppm N - 0.7 to 1.2 EC	No	Avoid high EC in early plug stage - maximum 0.5 in Stages 1 and 2. Grow at less than 13 hours to keep vegetative. Spray damp-off fungicide.  For forcing info: See Perennials Forcing Guide
COREOPSIS <i>Coreopsis grandiflora</i> <b>Double the Sun</b>	PRM	288 128	5-7 7-8	1-2 2-4	Light cover	3-5	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 65-68°F (18-20°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 65-68°F (18-20°C) (l) 6-8 mol·m <sup>-2</sup> ·d <sup>-1</sup> (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 60-65°F (16-18°C) (l) 8-10 mol·m <sup>-2</sup> ·d <sup>-1</sup> (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 1-2 (t) 60-65°F (16-18°C) (l) 8-10 mol·m <sup>-2</sup> ·d <sup>-1</sup> (f) 175 to 225 ppm N - 1.2 to 1.5 EC	No	Critical Daylength : 13 hrs. Short Day (10 hours) bulk needed for forcing  For forcing info: See Perennials Forcing Guide  1-2 seed for 288/3 to 4 for 84. Plug PGRs: For Spring production, no PGRs needed. For Summer production under long day conditions, can use B-Nine/Alar (1,500 to 2,500 ppm spray). Short day bulk not needed for Autumn sales.

CLASS/SERIES	SEED FORM	RECOMMENDED PLUG SIZE	PLUG CROP WEEKS	SEEDS/ CELL	COVER SEED	DAYS TO GERMINATE	INITIAL MEDIA PH/EC	STAGE 1	STAGE 2	STAGE 3	STAGE 4	VERNALIZATION REQUIRED	KEY TIPS
COREOPSIS <i>Coreopsis grandiflora</i> <b>Early Sunrise</b>	PRM	288 128	5-7 7-8	1-2 2-4	Light cover	3-5	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 65-68°F (18-20°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 65-68°F (18-20°C) (l) 6-8 mol-m <sup>-2</sup> -d <sup>-1</sup> (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 60-65°F (16-18°C) (l) 8-10 mol-m <sup>-2</sup> -d <sup>-1</sup> (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 1-2 (t) 60-65°F (16-18°C) (l) 8-10 mol-m <sup>-2</sup> -d <sup>-1</sup> (f) 175 to 225 ppm N - 1.2 to 1.5 EC	No	Critical Daylength: 14 hours. For forcing info: See Perennials Forcing Guide. 1 to 2 seeds for 288/4 to 6 seeds for 84. Plug PGRs: For Spring production, no PGRs needed. For Summer production under long day conditions, can use B-Nine/Alar (1,500 to 2,500 ppm spray). Short day bulk not needed for Autumn sales.
COREOPSIS <i>Coreopsis grandiflora</i> <b>Sunfire</b>	PRM	288 128	5-7 7-8	1-2 2-4	Light cover	3-5	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 65-68°F (18-20°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 65-68°F (18-20°C) (l) 6-8 mol-m <sup>-2</sup> -d <sup>-1</sup> (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 60-65°F (16-18°C) (l) 8-10 mol-m <sup>-2</sup> -d <sup>-1</sup> (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 1-2 (t) 60-65°F (16-18°C) (l) 8-10 mol-m <sup>-2</sup> -d <sup>-1</sup> (f) 175 to 225 ppm N - 1.2 to 1.5 EC	No	Critical Daylength: 13 hours. Short day (10 hours) bulk needed for forcing. For forcing info: See Perennials Forcing Guide. 1 to 2 seeds for 288/3 to 4 seeds for 84. Plug PGRs: For Spring production, no PGRs needed. For Summer production under long day conditions, can use B-Nine/Alar (1,500 to 2,500 ppm spray).
COREOPSIS <i>Coreopsis grandiflora</i> <b>SunKiss</b>	PRM	288 128	5-7 7-8	1-2 2-4	Light cover	3-5	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 65-68°F (18-20°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 65-68°F (18-20°C) (l) 6-8 mol-m <sup>-2</sup> -d <sup>-1</sup> (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 60-65°F (16-18°C) (l) 8-10 mol-m <sup>-2</sup> -d <sup>-1</sup> (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 1-2 (t) 60-65°F (16-18°C) (l) 8-10 mol-m <sup>-2</sup> -d <sup>-1</sup> (f) 175 to 225 ppm N - 1.2 to 1.5 EC	No	Critical Daylength: 12.5 hours. Short day (at 10 hours) bulk needed for forcing. For forcing info: See Perennials Forcing Guide. 1 seed for 288/3 to 4 seeds for 84. Plug PGRs: For Spring production, no PGRs needed. For Summer production under long day conditions, can use B-Nine/Alar (1,500 to 2,500 ppm spray). Short day bulk not needed for Autumn sales.
DELPHINIUM <i>Delphinium x belladonna</i> <b>Blue Donna</b>	RAW	288	6-8	1	Yes	7-10	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 68-72°F (20-22°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3 (t) 65-68°F (18-20°C) (l) 6-8 mol-m <sup>-2</sup> -d <sup>-1</sup> (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 65-68°F (18-20°C) (l) 6-8 mol-m <sup>-2</sup> -d <sup>-1</sup> (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2 (t) 60-65°F (16-18°C) (l) 6-8 mol-m <sup>-2</sup> -d <sup>-1</sup> (f) 100 to 175 ppm N - 0.7 to 1.2 EC	No	For forcing info: See Perennials Forcing Guide. Spray damp-off fungicide.
DELPHINIUM <i>Delphinium grandiflorum</i> <b>Diamonds Blue F<sub>1</sub></b>	RAW	288	6-7	1	Yes	5-7	5.8-6.0 pH 0.75 mmhos/cm	(m) Level 4 (t) 65-70°F (18-21°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3 (t) 65-68°F (18-20°C) (l) 2,000-2,500 f.c. (21,500-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2 (t) 65-68°F (18-20°C) (l) 2,000-2,500 f.c. (21,500-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2 (t) 60-65°F (16-18°C) (l) 4,000-5,000 f.c. (43,100-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	No	For forcing info: See Perennials Forcing Guide. Avoid low light conditions.
DELPHINIUM <i>Delphinium elatum</i> <b>Guardian F<sub>1</sub> Series</b>	RAW	288	6-7	1	Yes	7-8	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 65-70°F (18-21°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3 (t) 65-70°F (18-21°C) (l) 2,000-2,500 f.c. (21,500-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2 (t) 65-68°F (18-20°C) (l) 2,000-2,500 f.c. (21,500-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2 (t) 60-65°F (16-18°C) (l) 4,000-5,000 f.c. (43,100-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	No	For forcing info: See Perennials Forcing Guide. Best germinated in germ chamber with 95 to 97% RH in Stage 1. Maximum EC in propagation: 1.0.
DIANTHUS <i>Dianthus barbatus interspecific</i> <b>Bouquet F<sub>1</sub> Series</b>	PEL	288	4-6	1	Yes	3-4	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 64-68°F (18-20°C) (l) Optional	(m) Level 3-4 (t) 65-70°F (18-21°C) (l) 5-8 mol-m <sup>-2</sup> -d <sup>-1</sup> (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 60-65°F (16-18°C) (l) 8-10 mol-m <sup>-2</sup> -d <sup>-1</sup> (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) paclobutrazol 4-6 ppm Spray	(m) Level 2-3 (t) 55-60°F (13-16°C) (l) 10 mol-m <sup>-2</sup> -d <sup>-1</sup> (f) 175 to 225 ppm N - 1.2 to 1.5 EC	No	
DIANTHUS <i>Dianthus barbatus interspecific</i> <b>Rockin' F<sub>1</sub> Series</b>	PEL	288	4-6	1	Yes	3-4	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 64-68°F (18-20°C) (l) Optional	(m) Level 3-4 (t) 65-70°F (18-21°C) (l) 5-8 mol-m <sup>-2</sup> -d <sup>-1</sup> (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 60-65°F (16-18°C) (l) 8-10 mol-m <sup>-2</sup> -d <sup>-1</sup> (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) paclobutrazol 4-6 ppm Spray	(m) Level 2-3 (t) 55-60°F (13-16°C) (l) 10 mol-m <sup>-2</sup> -d <sup>-1</sup> (f) 175 to 225 ppm N - 1.2 to 1.5 EC	No	Paclobutrazol spray at 3-5 ppm at sowing will help control hypocotyl stretch.
DIGITALIS <i>Digitalis purpurea</i> <b>Dalmatian F<sub>1</sub> Series</b>	PEL	288 128	5-6 6-7	1 3	No	5-6	5.8-6.2 pH 0.7-1.0 mmhos/cm	(m) Level 4 (t) 65-68°F (18-20°C) (l) Light (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3 (t) 65-68°F (18-20°C) (l) 2,000-2,500 f.c. (21,500-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC (p) daminozide 2,000 ppm Spray or paclobutrazol 5 ppm Spray or uniconazole 3 ppm Spray	(m) Level 3 (t) 60-65°F (16-18°C) (l) 2,000-2,500 f.c. (21,500-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) daminozide 2,000 ppm Spray or paclobutrazol 5 ppm Spray or uniconazole 3 ppm Spray	(m) Level 2 (t) 60-65°F (16-18°C) (l) 4,000-5,000 f.c. (43,100-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) daminozide 2,000 ppm Spray or paclobutrazol 5 ppm Spray or uniconazole 3 ppm Spray	No	Critical Daylength: 14 hours. Short day (10 hours) bulk needed for forcing. For forcing info: See Perennials Forcing Guide. Spray damp-off fungicide.

CLASS/SERIES	SEED FORM	RECOMMENDED PLUG SIZE	PLUG CROP WEEKS	SEEDS/ CELL	COVER SEED	DAYS TO GERMINATE	INITIAL MEDIA PH/EC	STAGE 1	STAGE 2	STAGE 3	STAGE 4	VERNALIZATION REQUIRED	KEY TIPS
ECHINACEA <i>Echinacea x hybrida</i> <b>Cheyenne Spirit</b>	RAW	128 72	5-6 11-13	1 1	Yes	4-14	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 71-76°F (22-24°C) (l) Optional	(m) Level 3-4 (t) 71-73°F (22-23°C) (l) 5-8 mol-m <sup>-2</sup> -d <sup>-1</sup> (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 10 mol-m <sup>-2</sup> -d <sup>-1</sup> (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-4 (t) 65-67°F (18-19°C) (l) 10-15 mol-m <sup>-2</sup> -d <sup>-1</sup> (f) 100 to 175 ppm N - 0.7 to 1.2 EC	No - but beneficial	Forcing Protocol: Produce plug or liner to the 2 fully mature leaf stage. At the 2 fully mature leaf stage, begin short day conditions. Continue short day conditions until plants reach at least 7 fully mature leaves. The 72 size for forcing reflects this schedule. For more forcing info: See Perennials Forcing Guide.
ECHINACEA <i>Echinacea purpurea</i> <b>PowWow® Series</b>	RAW	128 72	5-6 11-13	1 1	Yes	4-14	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 71-76°F (22-24°C) (l) Optional	(m) Level 3-4 (t) 71-73°F (22-23°C) (l) 5-8 mol-m <sup>-2</sup> -d <sup>-1</sup> (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 10 mol-m <sup>-2</sup> -d <sup>-1</sup> (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-4 (t) 65-67°F (18-19°C) (l) 10-15 mol-m <sup>-2</sup> -d <sup>-1</sup> (f) 100 to 175 ppm N - 0.7 to 1.2 EC	No - but beneficial	Forcing Protocol: Produce plug or liner to the 2 fully mature leaf stage. At the 2 fully mature leaf stage, begin short day conditions. Continue short day conditions until plant reaches 7 fully mature leaves. The 72 size for forcing reflects this schedule. For more forcing info: See Perennials Forcing Guide.
GAILLARDIA <i>Gaillardia x grandiflora</i> <b>Mesa F1 Series</b>	RAW	128 288	6-7 5-6	1 1	Yes	4-5	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4-5 (t) 68-73°F (20-23°C) (l) Optional	(m) Level 3-4 (t) 68-73°F (20-23°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 65-67°F (18-19°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) daminozide 2,500 ppm Spray	(m) Level 2-4 (t) 59-64°F (15-18°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) daminozide 2,500 ppm Spray	No	For forcing info: See Perennials Forcing Guide.
GAURA <i>Gaura lindheimeri</i> <b>Sparkle White</b>	RAW	288	5-6	1	Yes	5-6	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 65-68°F (18-20°C) (l) Optional	(m) Level 3-4 (t) 66-70°F (19-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2 (t) 65-67°F (18-19°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2 (t) 59-64°F (15-18°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	No	For forcing info: See Perennials Forcing Guide. Gaura seed is a nutlet with 2 to 3 seeds, so plug cells may have greater than one seedling.
GYPSOPHILA <i>Gypsophila cerastioides</i> <b>Pixie Splash</b>	PRM	288	5-6	4	No	3-4	5.8-6.5 pH 0.75 mmhos/cm	(m) Level 4 (t) 60-65°F (16-18°C) (l) Light (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3 (t) 60-65°F (16-18°C) (l) 6-8 mol-m <sup>-2</sup> -d <sup>-1</sup> (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2 (t) 60-65°F (16-18°C) (l) 6-8 mol-m <sup>-2</sup> -d <sup>-1</sup> (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2 (t) 60-65°F (16-18°C) (l) 6-8 mol-m <sup>-2</sup> -d <sup>-1</sup>	Yes - duration of 8 weeks; max 40°F (4°C)	Spray damp-off fungicide.
HEUCHERA <i>Heuchera x hybrida</i> <b>Melting Fire</b>	PEL	288 128	9-11 10-11	6-8 6-8	No	10-14	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4-5 (t) 68-72°F (20-22°C) (l) Light (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 4-3 (t) 65-68°F (18-20°C) (l) 2,000-2,500 f.c. (21,500-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3 (t) 65-68°F (18-20°C) (l) 2,000-2,500 f.c. (21,500-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2 (t) 65-68°F (18-20°C) (l) 2,500-3,500 f.c. (26,900-37,700 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	No - vernalization not needed when sold for foliage	For forcing info: See Perennials Forcing Guide. Spray damp-off fungicide. This variety is slower to germinate, in 2 to 3 flushes. Regarding Multi-Sow: note that single sow is possible in 510 trays, for example, with transplant into 128 trays. Grading is needed before transplant. Melting Fire is an alternative for Tissue Culture varieties (i.e., Crimson Curly) and is an economical approach already being applied commercially.
HEUCHERA <i>Heuchera micrantha</i> <b>Palace Purple</b>	PEL	288 128	6-8 8-9	4 6	No	7-10	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4-5 (t) 68-72°F (20-22°C) (l) Light (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 4-3 (t) 65-68°F (18-20°C) (l) 2,000-2,500 f.c. (21,500-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3 (t) 65-68°F (18-20°C) (l) 2,000-2,500 f.c. (21,500-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2 (t) 60-65°F (16-18°C) (l) 2,500-3,500 f.c. (26,900-37,700 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	No - vernalization not needed when sold for foliage	For forcing info: See Perennials Forcing Guide. Spray damp-off fungicide. NOTE: Palace Purple is quicker to produce as a plug and finished plant than Melting Fire.
HIBISCUS <i>Hibiscus moscheutos</i> <b>Luna F1 Series</b>	RAW	288 128	3-4 4	1 1	Yes	3-5	5.5-6.3 pH 0.75 mmhos/cm	(m) Level 4 (t) 68-75°F (20-24°C) (l) Dark (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3 (t) 68-71°F (20-22°C) (l) 2,000-2,500 f.c. (21,500-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2 (t) 68-71°F (20-22°C) (l) 2,000-2,500 f.c. (21,500-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) chlormequat chloride 300 ppm Spray	(m) Level 2 (t) 68-71°F (20-22°C) (l) 4,000-5,000 f.c. (43,100-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) chlormequat chloride 300 ppm Spray	No - damage to plugs results below 41°F (5°C)	For forcing info: See Perennials Forcing Guide. Cover seed with plug media. Grow plants under daily average temperature above 68°F (20°C) and keep media moist to wet. Use PGRs in warmer conditions from true leaf stage onwards: tank mix of Cycocel (chlormequat chloride) 300 ppm and B-Nine (daminozide) 2,500 ppm.

CLASS/SERIES	SEED FORM	RECOMMENDED PLUG SIZE	PLUG CROP WEEKS	SEEDS/ CELL	COVER SEED	DAYS TO GERMINATE	INITIAL MEDIA PH/EC	STAGE 1	STAGE 2	STAGE 3	STAGE 4	VERNALIZATION REQUIRED	KEY TIPS
IBERIS <i>Iberis sempervirens</i> <b>Whiteout</b>	RAW	288	7-8	3-4	Yes	4-7	5.5-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 61-65°F (16-18°C) (l) Optional	(m) Level 3 (t) 61-65°F (16-18°C) (l) 2,000-2,500 f.c. (21,500-26,900 Lux)	(m) Level 2 (t) 61-65°F (16-18°C) (l) 2,000-2,500 f.c. (21,500-26,900 Lux)	(m) Level 2 (t) 61-65°F (16-18°C) (l) 4,000-5,000 f.c. (43,100-53,800 Lux)	Yes - minimum 8 to 10 weeks. Plants should be bulked for about 8 to 10 weeks before being receptive to cold treatment.	No pinching needed.
LAVANDULA <i>Lavandula angustifolia</i> <b>Avignon Early Blue</b>	PRM	288 128	6-8 8-9	4 6	Yes	4-5	5.8-6.5 pH 0.7-12.0 mmhos/cm	(m) Level 4 (t) 65-68°F (18-20°C) (l) Light (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 3 (t) 65-68°F (18-20°C) (l) 2,000-2,500 f.c. (21,500-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-3 (t) 60-65°F (16-18°C) (l) 2,500-3,500 f.c. (26,900-37,700 Lux) (f) 175 to 225 ppm N - 1.2 to 1.5 EC (p) daminozide 1,000-2,000 ppm Spray	(m) Level 2 (t) 60-65°F (16-18°C) (l) 4,000-5,000 f.c. (43,100-53,800 Lux) (f) 175 to 225 ppm N - 1.2 to 1.5 EC (p) daminozide 1,000-2,000 ppm Spray	No	For forcing info: see Perennials Forcing Guide For scheduling info: see Lavender scheduling tool  Spray damp-off fungicide. Provide good ventilation and active respiration in plug production. Grow on the dry side, with watering in early morning, to allow plugs to dry up during the day. If respiration and fertilization are too low, <i>Lavandula angustifolia</i> can show "black spots" on cotyledons due to root pressure damage. This is reversible with improved ventilation and higher fertilization.
LAVANDULA <i>Lavandula stoechas</i> <b>Bandera Series</b>	RAW	288 128	6-7 7-8	1 1	Yes	3-5	5.5-6.2 pH 1.0-1.2 mmhos/cm	(m) Level 4 (t) 65-68°F (18-20°C) (l) Light (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3 (t) 60-65°F (16-18°C) (l) 2,000-2,500 f.c. (21,500-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2 (t) 60-65°F (16-18°C) (l) 2,000-2,500 f.c. (21,500-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2 (t) 60-65°F (16-18°C) (l) 4,000-5,000 f.c. (43,100-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	No	Keep active growing environment. Spray damp-off fungicide. Genetically compact plants should not need PGRs in plug production. If needed, use B-Nine (daminozide) spray 2,500 ppm. High pH (> 6.8) causes chlorosis. For forcing info: See Perennials Forcing Guide. See Lavender Scheduling Tool at panamseed.com for finishing schedules by region.
LAVANDULA <i>Lavandula angustifolia</i> <b>Blue Spear</b>	PRM	288 128	6-8 8-9	3-4 5-6	Yes	4-5	5.8-6.5 pH 0.7-1.2 mmhos/cm	(m) Level 4 (t) 65-68°F (18-20°C) (l) Light (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 3 (t) 65-68°F (18-20°C) (l) 2,000-2,500 f.c. (21,500-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-3 (t) 60-65°F (16-18°C) (l) 2,500-3,500 f.c. (26,900-37,700 Lux) (f) 175 to 225 ppm N - 1.2 to 1.5 EC (p) daminozide 1,000-2,000 ppm Spray	(m) Level 2 (t) 60-65°F (16-18°C) (l) 4,000-5,000 f.c. (43,100-53,800 Lux) (f) 175 to 225 ppm N - 1.2 to 1.5 EC (p) daminozide 1,000-2,000 ppm Spray	No	For forcing info: see Perennials Forcing Guide For scheduling info: see Lavender scheduling tool  Spray damp-off fungicide. Provide good ventilation and active respiration in plug production. Grow on the dry side, with watering in early morning, to allow plugs to dry up during the day. If respiration and fertilization are too low, <i>Lavandula angustifolia</i> can show "black spots" on cotyledons due to root pressure damage. This is reversible with improved ventilation and higher fertilization.
LAVANDULA <i>Lavandula angustifolia</i> <b>Ellagance Series</b>	PRM	288 128	6-8 8-9	4 6	Yes	4-5	5.8-6.5 pH 0.7-1.2 mmhos/cm	(m) Level 4 (t) 65-68°F (18-20°C) (l) Light (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 3 (t) 65-68°F (18-20°C) (l) 2,000-2,500 f.c. (21,500-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-3 (t) 60-65°F (16-18°C) (l) 2,500-3,500 f.c. (26,900-37,700 Lux) (f) 175 to 225 ppm N - 1.2 to 1.5 EC (p) daminozide 1,000-2,000 ppm Spray	(m) Level 2 (t) 60-65°F (16-18°C) (l) 4,000-5,000 f.c. (43,100-53,800 Lux) (f) 175 to 225 ppm N - 1.2 to 1.5 EC (p) daminozide 1,000-2,000 ppm Spray	No	For forcing info: see Perennials Forcing Guide For scheduling info: see Lavender scheduling tool  Spray damp-off fungicide. Provide good ventilation and active respiration in plug production. Grow on the dry side, with watering in early morning, to allow plugs to dry up during the day. If respiration and fertilization are too low, <i>Lavandula angustifolia</i> can show "black spots" on cotyledons due to root pressure damage. This is reversible with improved ventilation and higher fertilization.

CLASS/SERIES	SEED FORM	RECOMMENDED PLUG SIZE	PLUG CROP WEEKS	SEEDS/CELL	COVER SEED	DAYS TO GERMINATE	INITIAL MEDIA PH/EC	STAGE 1	STAGE 2	STAGE 3	STAGE 4	VERNALIZATION REQUIRED	KEY TIPS
LAVANDULA <i>Lavandula angustifolia</i> <b>Lavace Deep Purple</b>	PRM	288 128	6-8 8-9	4 6	Yes	4-5	5.8-6.5 pH 0.7-1.2 mmhos/cm	(m) Level 4 (t) 65-68°F (18-20°C) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 3 (t) 65-68°F (18-20°C) (l) 2,000-2,500 f.c. (21,500-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-3 (t) 60-65°F (16-18°C) (l) 2,500-3,500 f.c. (26,900-37,700 Lux) (f) 175 to 225 ppm N - 1.2 to 1.5 EC	(m) Level 2 (t) 60-65°F (16-18°C) (l) 4,000-5,000 f.c. (43,100-53,800 Lux) (f) 175 to 225 ppm N - 1.2 to 1.5 EC	No	For forcing info: see Perennials Forcing Guide For scheduling info: see Lavender scheduling tool  Spray damp-off fungicide. Provide good ventilation and active respiration in plug production. Grow on the dry side, with watering in early morning, to allow plugs to dry up during the day. If respiration and fertilization are too low, <i>Lavandula angustifolia</i> can show "black spots" on cotyledons due to root pressure damage. This is reversible with improved ventilation and higher fertilization.
LAVANDULA <i>Lavandula multifida</i> <b>Spanish Eyes</b>	RAW	288	5-6	2-4	Light cover	4-5	5.8-6.2 pH 0.7-1.2 mmhos/cm	(m) Level 4 (t) 68-72°F (20-22°C) (l) Light	(m) Level 3 (t) 65-68°F (18-20°C) (l) 2,000-2,500 f.c. (21,500-26,900 Lux)	(m) Level 2 (t) 60-65°F (16-18°C) (l) 2,000-2,500 f.c. (21,500-26,900 Lux) (p) daminozide 1,500-2,500 ppm Spray	(m) Level 2 (t) 60-65°F (16-18°C) (l) 4,000-5,000 f.c. (43,100-53,800 Lux) (p) daminozide 1,500-2,500 ppm Spray	No	Spray preventive fungicide against damping off. Grow in an active growing climate.
LOBELIA <i>Lobelia x speciosa</i> <b>Starship F<sub>1</sub> Series</b>	PEL	288	8-10	1	Light cover	6-10	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 65-72°F (18-22°C) (l) Light	(m) Level 3 (t) 65-68°F (18-20°C) (l) 2,000-2,500 f.c. (21,500-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(t) 65-68°F (18-20°C) (l) 2,000-2,500 f.c. (21,500-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) daminozide 1,500-2,500 ppm Spray	(t) 60-65°F (16-18°C) (l) 4,000-5,000 f.c. (43,100-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) daminozide 1,500-2,500 ppm Spray	No	Critical Daylength: 13 hours. Short day (10 hours) bulk needed for forcing. Spring forcing for Week 19 sales: Use 72 plug. Fall forcing for Week 36 sales: Use 288 plug. For more forcing info: See Perennials Forcing Guide. Needs light for germination, but avoid drying out (light vermiculite cover advised). Grow plugs at 10 hours or less for at least the first 8 weeks from sowing to keep vegetative. Keep media uniformly moist. Avoid too dry or too wet. Starship Deep Rose has 7 to 10 days longer plug lead time, due to slower start.
LOBELIA <i>Lobelia x speciosa</i> <b>Vulcan Red</b>	PEL	288	7-10	1	Light cover	8-10	5.8-6.6 pH 0.75 mmhos/cm	(m) Level 4 (t) 65-72°F (18-22°C) (l) Light (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3 (t) 65-68°F (18-20°C) (l) 2,000-2,500 f.c. (21,500-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2 (t) 65-68°F (18-20°C) (l) 2,000-2,500 f.c. (21,500-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2 (t) 60-65°F (16-18°C) (l) 4,000-5,000 f.c. (43,100-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	No	Needs light for germination, but avoid drying out (light vermiculite cover advised). Grow at less than 10 hours for at least the first 8 weeks from sowing to keep vegetative.
MYOSOTIS <i>Myosotis sylvatica</i> <b>Mon Amie Blue</b>	RAW	288	4-5	1	No	3-5	5.6-5.8 pH 0.75 mmhos/cm	(m) Level 4 (t) 68-74°F (20-23°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3 (t) 65-68°F (18-20°C) (l) 2,000-2,500 f.c. (21,500-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2 (t) 60-65°F (16-18°C) (l) 2,000-2,500 f.c. (21,500-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2 (t) 60-65°F (16-18°C) (l) 3,000-4,000 f.c. (32,300-43,100 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	No	Maintain low pH to avoid chlorosis.
NEPETA <i>Nepeta nervosa</i> <b>Blue Moon</b>	RAW	288	5-6	4	Yes	4-5	5.8-6.5 pH 0.75 mmhos/cm	(m) Level 4 (t) 65-68°F (18-20°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3 (t) 60-65°F (16-18°C) (l) 2,000-2,500 f.c. (21,500-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2 (t) 60-65°F (16-18°C) (l) 2,000-2,500 f.c. (21,500-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) daminozide 1,000-2,000 ppm Spray	(m) Level 2 (t) 60-65°F (16-18°C) (l) 4,000-5,000 f.c. (43,100-53,800 Lux) (p) daminozide 1,500-2,000 ppm Spray	No	Spray damp-off fungicide.
NEPETA <i>Nepeta nervosa</i> <b>Pink Cat</b>	RAW	288	5-6	4	Yes	4-5	5.8-6.5 pH 0.75 mmhos/cm	(m) Level 4 (t) 65-68°F (18-20°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3 (t) 60-65°F (16-18°C) (l) 2,000-2,500 f.c. (21,500-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2 (t) 60-65°F (16-18°C) (l) 2,000-2,500 f.c. (21,500-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) daminozide 1,000-2,000 ppm Spray	(m) Level 2 (t) 60-65°F (16-18°C) (l) 4,000-5,000 f.c. (43,100-53,800 Lux) (p) daminozide 1,500-2,000 ppm Spray	No	Spray damp-off fungicide.



CLASS/SERIES	SEED FORM	RECOMMENDED PLUG SIZE	PLUG CROP WEEKS	SEEDS/ CELL	COVER SEED	DAYS TO GERMINATE	INITIAL MEDIA PH/EC	STAGE 1	STAGE 2	STAGE 3	STAGE 4	VERNALIZATION REQUIRED	KEY TIPS
PAPAVER <i>Papaver nudicaule</i> <b>Champagne Bubbles F<sub>1</sub> Series</b>	PRM	288	4-5	1	Light cover	7-12	5.5-6.0 pH 0.75 mmhos/cm	(m) Level 4 (t) 64-68°F (18-20°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3 (t) 60-65°F (16-18°C) (l) 2,000-2,500 f.c. (21,500-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2 (t) 60-65°F (16-18°C) (l) 2,000-2,500 f.c. (21,500-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2 (t) 60-65°F (16-18°C) (l) 4,000-5,000 f.c. (43,100-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	No	Spray damp-off fungicide. Avoid high pH (>6.1) that causes chlorosis from iron deficiency.
PENSTEMON <i>Penstemon x mexicali</i> <b>Carillo Series</b>	RAW	288 128	6-8 7-8	3-4 3-4	No	3-6	5.8-6.5 pH 0.75 mmhos/cm	(m) Level 4 (t) 65-68°F (18-20°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3 (t) 60-65°F (16-18°C) (l) 2,000-2,500 f.c. (21,500-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 3 (t) 60-65°F (16-18°C) (l) 2,000-2,500 f.c. (21,500-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 3 (t) 60-65°F (16-18°C) (l) 4,000-5,000 f.c. (43,100-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	No	Spray damp-off fungicide. Carillo Red will show reversible chlorosis if grown too cold (lower than 50°F/10°C ADT). For info on forcing for Mother's Day (Week 19): See Perennials Forcing Guide.
PENSTEMON <i>Penstemon heterophyllus</i> <b>Electric Blue</b>	RAW	288	4-5	1	No	8-10	5.8-6.5 pH 0.75 mmhos/cm	(m) Level 4 (t) 65-74°F (18-23°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3 (t) 65-68°F (18-20°C) (l) 2,000-2,500 f.c. (21,500-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2 (t) 60-65°F (16-18°C) (l) 3,000-4,000 f.c. (32,300-43,100 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2 (t) 60-65°F (16-18°C) (l) 4,000-5,000 f.c. (43,100-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	No - but beneficial; cooled plants flower more uniformly and faster than non-cooled plants; duration of 10 weeks at 41°F (5°C)	Needs active growing climate.
PEROVSKIA <i>Perovskia atriplicifolia</i> <b>Blue Steel</b>	RAW	288 128	5-9 6-10	1 2-3	Yes	2-4	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4-5 (t) 65-72°F (18-22°C) (l) Optional (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 4 (t) 65-72°F (18-22°C) (l) 6-8 mol·m <sup>-2</sup> ·d <sup>-1</sup> (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) daminozide 2,500 ppm Spray	(m) Level 3 (t) 60-68°F (16-20°C) (l) 6-8 mol·m <sup>-2</sup> ·d <sup>-1</sup> (f) 175 to 225 ppm N - 1.2 to 1.5 EC (p) daminozide 2,500 ppm Spray	(m) Level 2 (t) 55-65°F (13-18°C) (l) 6-8 mol·m <sup>-2</sup> ·d <sup>-1</sup> (f) 175 to 225 ppm N - 1.2 to 1.5 EC (p) daminozide 2,500 ppm Spray	No	Light Accumulator, Daylength Neutral. For forcing info: See Perennials Forcing Guide. 2 to 3 seeds per cell for larger plugs (128 and up): see GrowerFacts. For plug size 180 and larger, pinch* plugs at 3 to 4 node pairs. 288 plugs are difficult to pinch, so pinch at 2 to 3 weeks after transplant. Plug lead time varies with season and plug size: see GrowerFacts. Spray fungicide against damping off, directly after sowing. *For larger (2 gallon and up) containers, plugs do not need to be pinched during plug production or after transplant. Instead, use a stronger PGR, B-Nine at 5,000 ppm 1 or 2 applications at 2 to 3 weeks after transplant.
RUDBECKIA <i>Rudbeckia fulgida var. sullivantii</i> <b>Goldsturm</b>	PRM	288 72	6-8 14	2 2	Yes	5-7	5.8-6.5 pH 0.75 mmhos/cm	(m) Level 4 (t) 68-72°F (20-22°C) (l) Light (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3 (t) 65-68°F (18-20°C) (l) 2,000-2,500 f.c. (21,500-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2 (t) 60-65°F (16-18°C) (l) 2,000-2,500 f.c. (21,500-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2 (t) 60-65°F (16-18°C) (l) 4,000-5,000 f.c. (43,100-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	No	Annual program for late Summer flowering: provide 10-hour short days. Bulk from 2 true leaves (approximately 4 weeks after sowing) until 10 true leaves for more uniform flowering. Step up 288 plugs into 72 or 50 cell, maintaining 10-hour short days. For forcing info: See Perennials Forcing Guide.
SALVIA <i>Salvia nemorosa (superba)</i> <b>New Dimension Series</b>	COT	288 128	5-6 7	4 4-6	Light cover	3-4	5.5-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 68-72°F (20-22°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3 (t) 65-68°F (18-20°C) (l) 2,000-2,500 f.c. (21,500-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2 (t) 60-65°F (16-18°C) (l) 2,000-2,500 f.c. (21,500-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2 (t) 60-65°F (16-18°C) (l) 4,000-5,000 f.c. (43,100-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	No	Critical Daylength: 14 hours. Short day (10 hours) bulk needed for forcing. For forcing info: See Perennials Forcing Guide. Spray damp-off fungicide.
SALVIA <i>Salvia patens</i> <b>Patio Series</b>	RAW	288 128	5-6 7	1 2-3	No	4-7	5.8-6.5 pH 0.75 mmhos/cm	(m) Level 4 (t) 65-68°F (18-20°C) (l) Light (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3 (t) 65-68°F (18-20°C) (l) 2,000-2,500 f.c. (21,500-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2 (t) 60-65°F (16-18°C) (l) 2,000-2,500 f.c. (21,500-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) daminozide 1,000-2,000 ppm Spray	(m) Level 1-2 (t) 60-65°F (16-18°C) (l) 4,000-5,000 f.c. (43,100-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) daminozide 1,500-2,000 ppm Spray	No	Short day (10 hours) bulk needed for forcing. For forcing info: See Perennials Forcing Guide.

CLASS/SERIES	SEED FORM	RECOMMENDED PLUG SIZE	PLUG CROP WEEKS	SEEDS/ CELL	COVER SEED	DAYS TO GERMINATE	INITIAL MEDIA PH/EC	STAGE 1	STAGE 2	STAGE 3	STAGE 4	VERNALIZATION REQUIRED	KEY TIPS
SAXIFRAGA <i>Saxifraga x arendsii</i> <b>Rocco Red</b>	PEL	288	9-10	2	Light cover	7-11	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4-5 (t) 65-68°F (18-20°C) (l) Dark (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3 (t) 65-68°F (18-20°C) (l) 2,000-2,500 f.c. (21,500-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2 (t) 60-65°F (16-18°C) (l) 2,000-2,500 f.c. (21,500-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2 (t) 60-65°F (16-18°C) (l) 4,000-5,000 f.c. (43,100-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Yes - duration of 12 weeks at 41°F (5°C)	Spray damp-off fungicide.
SCABIOSA <i>Scabiosa columbaria</i> <b>Blue Note</b>	RAW	288 128	6-8 8-9	2-3 4-5	Yes	8-10	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 65-68°F (18-20°C) (l) Dark (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3 (t) 65-68°F (18-20°C) (l) 2,000-2,500 f.c. (21,500-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2 (t) 60-65°F (16-18°C) (l) 2,000-2,500 f.c. (21,500-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2 (t) 60-65°F (16-18°C) (l) 4,000-5,000 f.c. (43,100-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	No	Short day (10 hours) bulk needed for forcing and minimum temperature of 62 to 65°F (17 to 18°C) for 6 weeks. For forcing info: See Perennials Forcing Guide. Spray damp-off fungicide.
SCABIOSA <i>Scabiosa japonica var. alpina</i> <b>Pink Diamonds</b>	RAW	288 128	6-8 8-9	2-3 4-5	Yes	8-10	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 65-68°F (18-20°C) (l) Dark (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3 (t) 65-68°F (18-20°C) (l) 2,000-2,500 f.c. (21,500-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2 (t) 60-65°F (16-18°C) (l) 2,000-2,500 f.c. (21,500-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2 (t) 60-65°F (16-18°C) (l) 4,000-5,000 f.c. (43,100-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	No	Short day (10 hours) bulk needed for forcing and minimum temperature of 62 to 65°F (17 to 18°C) for 6 weeks. For forcing info: See Perennials Forcing Guide. Spray damp-off fungicide.
SILENE <i>Silene alpestris</i> <b>Starry Dreams</b>	RAW	288	5-6	3-4	No	5-7	5.8-6.5 pH 0.75 mmhos/cm	(m) Level 4 (t) 68-72°F (20-22°C) (l) Dark (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3 (t) 65-68°F (18-20°C) (l) 2,000-2,500 f.c. (21,500-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2 (t) 60-65°F (16-18°C) (l) 2,000-2,500 f.c. (21,500-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2 (t) 60-65°F (16-18°C) (l) 4,000-5,000 f.c. (43,100-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	No	Avoid growing wet.
VERBASCUM <i>Verbascum x hybrida</i> <b>Southern Charm</b>	RAW	288	4-5	1	Yes	3-7	5.8-6.5 pH 0.75 mmhos/cm	(m) Level 4 (t) 65-68°F (18-20°C) (l) Dark (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3 (t) 65-68°F (18-20°C) (l) 2,000-2,500 f.c. (21,500-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2 (t) 60-65°F (16-18°C) (l) 2,000-2,500 f.c. (21,500-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2 (t) 60-65°F (16-18°C) (l) 4,000-5,000 f.c. (43,100-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	No	
VERBENA <i>Verbena bonariensis</i> <b>Buenos Aires</b>	PRM	288 128	6-7 8	4 4	Yes	7-10	5.5-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 68-72°F (20-22°C) (l) Dark (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 65-68°F (18-20°C) (l) 2,000-2,500 f.c. (21,500-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2 (t) 60-65°F (16-18°C) (l) 2,000-2,500 f.c. (21,500-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2 (t) 60-65°F (16-18°C) (l) 4,000-5,000 f.c. (43,100-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	No	For forcing info: See Perennials Forcing Guide. Spray damp-off fungicide. Grow relatively dry after Stage 1.
VERBENA <i>Verbena rigida</i> <b>Santos Purple</b>	PRM	288 128	6-7 8	4 4	Yes	7-10	5.5-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 68-72°F (20-22°C) (l) Dark (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3 (t) 65-68°F (18-20°C) (l) 2,000-2,500 f.c. (21,500-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2 (t) 60-65°F (16-18°C) (l) 2,000-2,500 f.c. (21,500-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2 (t) 60-65°F (16-18°C) (l) 4,000-5,000 f.c. (43,100-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	No	For forcing info: see Perennials Forcing Guide. Spray damp-off fungicide.
VERONICA <i>Veronica spicata</i> <b>Blue Bouquet</b>	PEL	288	5-6	1	Yes	6-9	5.5-6.2 pH 0.75 mmhos/cm	(m) Level 4-5 (t) 65-75°F (18-24°C) (l) Dark (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3 (t) 65-68°F (18-20°C) (l) 2,000-2,500 f.c. (21,500-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2 (t) 60-65°F (16-18°C) (l) 2,000-2,500 f.c. (21,500-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2 (t) 60-65°F (16-18°C) (l) 4,000-5,000 f.c. (43,100-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	No	

CLASS/SERIES	HARDINESS ZONE	RECOMMENDED PLUG SIZE	GROWING ON TEMPERATURE (DAYS/NIGHTS)	TARGET MEDIA PH/EC	DAYLENGTH	VERNALIZATION REQUIRED	FINISHING PROGRAMS FOR ANNUAL AND OVERWINTER PRODUCTION	KEY TIPS
AQUILEGIA <i>Aquilegia vulgaris</i> <b>Clementine Series</b>	3-8	288	(day) 65-68°F (18-20°C) (night) 50-54°F (10-12°C)	5.8-6.2 pH 1.0-1.5 mmhos/cm	Day Neutral Aquilegia is a day-neutral plant after vernalization. Long days of 14 hours or longer could stimulate stem elongation and slightly hasten flowering after the vernalization period.	Yes - duration of 10 to 12 weeks; juvenility min. 10 to 12 true leaves	<b>Overwinter, 5"/6"/1 Gallon</b> , 1-3 (ppp), 32-40 (weeks), Spring PGR daminozide 1,500-2,500 ppm Spray <b>Overwinter, 8"/2 Gallon</b> , 4-6 (ppp), 32-40 (weeks), Spring PGR daminozide 1,500-2,500 ppm Spray	Keep RH at optimum 65%. Outside crops can be forced indoors at 54 to 59°F (12 to 15°C).
AQUILEGIA <i>Aquilegia x hybrida</i> <b>Songbird F<sub>1</sub> Series</b>	3-9	288	(day) 60-68°F (16-20°C) (night) 55-64°F (13-18°C)	5.8-6.2 pH 1.0-1.5 mmhos/cm	Day Neutral Aquilegia is a day-neutral plant after vernalization. Long days of 14 hours or longer could stimulate stem elongation and slightly hasten flowering after the vernalization period.	Yes - but vernalization temperature can go as high as 55°F (13°C) nights and 60°F (15°C) days; duration of 4 weeks at 41°F (5°C) or 6 weeks at 55°F (13°C); start cool treatment after 12 to 15-leaf stage	<b>Annual, 5"/6"/1 Gallon</b> , 1 (ppp), 22-28 (weeks), Spring PGR daminozide/ancymidol tank mix 2,500/10 ppm Spray <b>Overwinter, 5"/6"/1 Gallon</b> , 1 (ppp), 32-38 (weeks), Autumn PGR daminozide/ancymidol tank mix 2,500/10 ppm Spray	Requires night temperatures below 55°F (13°C) to initiate flower buds.
AQUILEGIA <i>Aquilegia x hybrida</i> <b>Swan F<sub>1</sub> Series</b>	3-9	288	(day) 60-68°F (16-20°C) (night) 55-64°F (13-18°C)	5.8-6.2 pH 1.0-1.5 mmhos/cm	Day Neutral Aquilegia is a day-neutral plant after vernalization. Long days of 14 hours or longer could stimulate stem elongation and slightly hasten flowering after the vernalization period.	Yes - but vernalization temperature can go as high as 55°F (13°C) nights and 60°F (15°C) days; duration of 4 weeks at 41°F (5°C) or 6 weeks at 55°F (13°C); start cool treatment after 12 to 15-leaf stage	<b>Annual, 5"/6"/1 Gallon</b> , 1 (ppp), 22-28 (weeks), Spring PGR daminozide/ancymidol tank mix 2,500/10 ppm Spray <b>Overwinter, 5"/6"/1 Gallon</b> , 1 (ppp), 32-38 (weeks), Autumn PGR daminozide/ancymidol tank mix 2,500/10 ppm Spray	Requires night temperatures below 55°F (13°C) to initiate flower buds.
AQUILEGIA <i>Aquilegia vulgaris</i> <b>Winky Double Series</b>	3-8	288	(day) 60-72°F (16-22°C) (night) 50-59°F (10-15°C)	5.8-6.2 pH 1.0-1.5 mmhos/cm	Day Neutral Aquilegia is a day-neutral plant after vernalization. Long days of 14 hours or longer could stimulate stem elongation and slightly hasten flowering after the vernalization period.	Yes - duration of 8 to 10 weeks; juvenility min. 10 to 12 true leaves	<b>Overwinter, 4"/4.5"/Quart</b> , 1-2 (ppp), 32-40 (weeks), Spring PGR daminozide 1,250-2,500 ppm Spray <b>Overwinter, 5"/6"/1 Gallon</b> , 2-4 (ppp), 32-40 (weeks), Spring PGR daminozide 1,250-2,500 ppm Spray	Keep RH at optimum 65%. Outside crops can be forced indoors at 54 to 59°F (12 to 15°C).
AQUILEGIA <i>Aquilegia vulgaris</i> <b>Winky Single Series</b>	3-8	288	(day) 60-72°F (16-22°C) (night) 50-59°F (10-15°C)	5.8-6.2 pH 1.0-1.5 mmhos/cm	Day Neutral Aquilegia is a day-neutral plant after vernalization. Long days of 14 hours or longer could stimulate stem elongation and slightly hasten flowering after the vernalization period.	Yes - duration of 8 to 10 weeks; juvenility min. 10 to 12 true leaves	<b>Overwinter, 4"/4.5"/Quart</b> , 1-2 (ppp), 32-40 (weeks), Spring PGR daminozide 1,250-2,500 ppm Spray <b>Overwinter, 5"/6"/1 Gallon</b> , 2-4 (ppp), 32-40 (weeks), Spring PGR daminozide 1,250-2,500 ppm Spray	Keep RH at optimum 65%. Outside crops can be forced indoors at 54 to 59°F (12 to 15°C).
ARABIS <i>Arabis blepharophylla</i> <b>Spring Charm</b>	4-7	288	(day) 60-65°F (16-18°C) (night) 50-54°F (10-12°C)	5.5-6.5 pH 1.0-1.3 mmhos/cm	Day Neutral	Yes - duration of 8 to 10 weeks from 7 to 8 true leaves onwards	<b>Overwinter, 5"/6"/1 Gallon</b> , 1 (ppp), 28-34 (weeks), Early Spring	Well-drained soil. Dislikes Winter wet. Moderate fertilization.
ARMERIA <i>Armeria pseudarmeria</i> <b>Ballerina Series</b>	7-9	288 128*	(day) 60-65°F (16-18°C) (night) 50-58°F (10-14°C)	5.6-6.2 pH 1.2-1.4 mmhos/cm	Day Neutral	No	<b>Annual, 4"/4.5"/Quart</b> , 1 (ppp), 12-15 (weeks), Spring PGR paclobutrazol 5 ppm Spray <b>Annual, 5"/6"/1 Gallon</b> , 1 (ppp), 10-12 (weeks), Summer PGR paclobutrazol 5 ppm Spray <b>Annual, 5"/6"/1 Gallon</b> , 3-5 (ppp), 10-12 (weeks), Summer PGR paclobutrazol 5 ppm Spray <b>Annual, 5"/6"/1 Gallon</b> , 3-5 (ppp), 12-15 (weeks), Spring PGR paclobutrazol 5 ppm Spray <b>Overwinter, 5"/6"/1 Gallon</b> , 1 (ppp), 26-34 (weeks), Spring PGR paclobutrazol 5 ppm Spray <b>Overwinter, 5"/6"/1 Gallon</b> , 3-5 (ppp), 26-34 (weeks), Spring PGR paclobutrazol 5 ppm Spray	Prevent Mg and Fe deficiency. Avoid planting plugs too deep (crown below soil surface) and growing wet in plug and finished stages.
BELLIS <i>Bellis perennis</i> <b>Bellissima Series</b>	4-7	512	(day) 60-65°F (16-18°C) (night) 40-45°F (4-7°C)	5.5-6.4 pH 1.1-1.3 mmhos/cm	Day Neutral	No	<b>Annual, 306 Pack</b> , 1 (ppp), 6-8 (weeks), Autumn PGR daminozide 1,000-2,000 ppm Spray <b>Annual, 306 Pack</b> , 1 (ppp), 6-8 (weeks), Winter PGR daminozide 1,000-2,000 ppm Spray <b>Overwinter, 5"/6"/1 Gallon</b> , 1 (ppp), 16-24 (weeks), Early Spring PGR daminozide 1,000-2,000 ppm Spray	Grow as cool as possible but avoid freezing temperatures. For forcing the crop when grown at these temperatures, grow at 55 to 58°F (10 to 12°C) for 4 weeks before sale. PGR for EU is Tilt (propiconazole) at 200 to 300 ppm.

\* Preferred plug size for forcing culture

CLASS/SERIES	HARDINESS ZONE	RECOMMENDED PLUG SIZE	GROWING ON TEMPERATURE (DAYS/NIGHTS)	TARGET MEDIA PH/EC	DAYLENGTH	VERNALIZATION REQUIRED	FINISHING PROGRAMS FOR ANNUAL AND OVERWINTER PRODUCTION	KEY TIPS
CAMPANULA <i>Campanula carpatica</i> <b>Rapido F<sub>1</sub> Series</b>	3-9	288 128*	(day) 65-68°F (18-20°C) (night) 55-60°F (13-16°C)	5.6-6.2 pH 1.0-1.3 mmhos/cm	Obligate Long Day Long day required (14 hours or 4-hour NI) until buds are visible.	No	Annual, 4"/4.5"/Quart, 1 (ppp), 12-14 (weeks), Late Spring PGR chlormequat chloride 750 ppm Spray Annual, 4"/4.5"/Quart, 1 (ppp), 12-14 (weeks), Late Spring PGR daminozide 2,000-2,500 ppm Spray Annual, 4"/4.5"/Quart, 1 (ppp), 9-12 (weeks), Summer PGR chlormequat chloride 750 ppm Spray Annual, 4"/4.5"/Quart, 1 (ppp), 9-12 (weeks), Summer PGR daminozide 2,000-2,500 ppm Spray Annual, 5"/6"/1 Gallon, 3-5 (ppp), 12-14 (weeks), Late Spring PGR chlormequat chloride 750 ppm Spray Annual, 5"/6"/1 Gallon, 3-5 (ppp), 12-14 (weeks), Late Spring PGR daminozide 2,000-2,500 ppm Spray Annual, 5"/6"/1 Gallon, 3-5 (ppp), 9-12 (weeks), Summer PGR chlormequat chloride 750 ppm Spray Annual, 5"/6"/1 Gallon, 3-5 (ppp), 9-12 (weeks), Summer PGR daminozide 2,000-2,500 ppm Spray	Moist, well-drained medium. Growing too cool delays both plug and finished plant. Long day Summer decreases plant bulk. Use more plugs per container compared to Spring.
COREOPSIS <i>Coreopsis grandiflora</i> <b>Double the Sun</b>	4-9	288 128*	(day) 60-70°F (16-21°C) (night) 55-60°F (13-16°C)	5.8-6.2 pH 1.2-1.5 mmhos/cm	Obligate Long Day Long Day required; minimum 13 hours	No	Annual, 4"/4.5"/Quart, 1 (ppp), 9-10 (weeks), Summer, ADT 72°F (22°C) PGR daminozide 2,500-3,000 ppm Spray Forcing, 4"/4.5"/Quart, 1 (ppp), 9-10 (weeks), Late Spring, ADT 72°F (22°C) PGR daminozide 2,500-3,000 ppm Spray Forcing, 4"/4.5"/Quart, 1 (ppp), 10-11 (weeks), Autumn, ADT 72°F (22°C) PGR daminozide 2,500-3,000 ppm Spray Annual, 5"/6"/1 Gallon, 1-3 (ppp), 9-11 (weeks), Summer, ADT 72°F (22°C) PGR daminozide 2,500-3,000 ppm Spray Forcing, 5"/6"/1 Gallon, 1-3 (ppp), 10-11 (weeks), Late Spring, ADT 72°F (22°C) PGR daminozide 2,500-3,000 ppm Spray Forcing, 5"/6"/1 Gallon, 1-3 (ppp), 10-11 (weeks), Autumn, ADT 72°F (22°C) PGR daminozide 2,500-3,000 ppm Spray	Apply PGRs when buds are visible
COREOPSIS <i>Coreopsis grandiflora</i> <b>Early Sunrise</b>	4-9	288 128*	(day) 60-70°F (16-21°C) (night) 55-60°F (13-16°C)	5.8-6.2 pH 1.2-1.5 mmhos/cm	Obligate Long Day Long day required - minimum 14 hours.	No	Annual, 4"/4.5"/Quart, 1 (ppp), 11-13 (weeks), Summer PGR daminozide 5,000 ppm Spray Annual, 5"/6"/1 Gallon, 1-3 (ppp), 12-13 (weeks), Summer PGR daminozide 5,000 ppm Spray Forcing, 5"/6"/1 Gallon, 1-3 (ppp), 12-13 (weeks), Late Spring, ADT 68°F (20°C) PGR daminozide 2,500-5,000 ppm Spray Forcing, 5"/6"/1 Gallon, 1-3 (ppp), 11-12 (weeks), Autumn, ADT 72°F (22°C) PGR daminozide 2,500-5,000 ppm Spray	Apply PGRs when buds are visible.
COREOPSIS <i>Coreopsis grandiflora</i> <b>Sunfire</b>	4-9	288 128*	(day) 60-70°F (16-21°C) (night) 55-60°F (13-16°C)	5.8-6.2 pH 1.5-2.0 mmhos/cm	Obligate Long Day Long day required - minimum 13 hours.	No	Annual, 4"/4.5"/Quart, 1 (ppp), 9-11 (weeks), Summer PGR daminozide 5,000 ppm Spray Forcing, 4"/4.5"/Quart, 1 (ppp), 10-11 (weeks), Late Spring, ADT 68°F (20°C) PGR daminozide 2,500-5,000 ppm Spray Forcing, 5"/6"/1 Gallon, 1-3 (ppp), 10-12 (weeks), Late Spring, ADT 68°F (20°C) PGR daminozide 2,500-5,000 ppm Spray Forcing, 5"/6"/1 Gallon, 1-3 (ppp), 10-12 (weeks), Autumn, ADT 72°F (22°C) PGR daminozide 2,500-5,000 ppm Spray Annual, 5"/6"/1 Gallon, 1-3 (ppp), 10-11 (weeks), Summer PGR daminozide 5,000 ppm Spray	Apply PGRs when buds are visible.
COREOPSIS <i>Coreopsis grandiflora</i> <b>SunKiss</b>	4-9	288 128*	(day) 60-70°F (16-21°C) (night) 55-60°F (13-16°C)	5.8-6.2 pH 1.2-1.5 mmhos/cm	Obligate Long Day Long day required - minimum 12.5 hours.	No	Annual, 4"/4.5"/Quart, 1 (ppp), 9-10 (weeks), Summer, ADT 72°F (22°C) PGR daminozide 5,000 ppm Spray Forcing, 4"/4.5"/Quart, 1 (ppp), 9-10 (weeks), Late Spring, ADT 72°F (22°C) PGR daminozide 2,500-5,000 ppm Spray Forcing, 4"/4.5"/Quart, 1 (ppp), 10-11 (weeks), Autumn, ADT 72°F (22°C) PGR daminozide 2,500-5,000 ppm Spray Annual, 5"/6"/1 Gallon, 1-3 (ppp), 10-11 (weeks), Summer, ADT 72°F (22°C) PGR daminozide 5,000 ppm Spray Forcing, 5"/6"/1 Gallon, 1-3 (ppp), 10-11 (weeks), Autumn, ADT 72°F (22°C) PGR daminozide 2,500-5,000 ppm Spray Forcing, 5"/6"/1 Gallon, 1-3 (ppp), 10-11 (weeks), Late Spring, ADT 72°F (22°C) PGR daminozide 2,500-5,000 ppm Spray	Apply PGRs when buds are visible.
DELPHINIUM <i>Delphinium x belladonna</i> <b>Blue Donna</b>	5-9	288	(day) 65-70°F (18-21°C) (night) 57-60°F (14-16°C)	5.8-6.2 pH 1.3-1.6 mmhos/cm	Day Neutral	No	Annual, 5"/6"/1 Gallon, 1-3 (ppp), 10-12 (weeks), Summer PGR paclobutrazol 20 ppm Spray Annual, 5"/6"/1 Gallon, 1-3 (ppp), 11-13 (weeks), Spring PGR paclobutrazol 20 ppm Spray	See Cut Flower section for cut flower production for both field and greenhouse. Monitor for Powdery Mildew.
DELPHINIUM <i>Delphinium grandiflorum</i> <b>Diamonds Blue F<sub>1</sub></b>	4-9	288	(day) 65-70°F (18-21°C) (night) 55-63°F (13-17°C)	5.6-6.2 pH 1.5-2.0 mmhos/cm	Facultative Long Day	No	Annual, 5"/6"/1 Gallon, 1-3 (ppp), 10-12 (weeks), Summer PGR paclobutrazol 20 ppm Spray Annual, 5"/6"/1 Gallon, 1-3 (ppp), 12-14 (weeks), Spring PGR paclobutrazol 20 ppm Spray Annual, 8"/2 Gallon, 3 (ppp), 10-12 (weeks), Summer PGR paclobutrazol 20 ppm Spray Annual, 8"/2 Gallon, 3 (ppp), 12-14 (weeks), Spring PGR paclobutrazol 20 ppm Spray	Avoid planting plugs too deep. Maintain good fertilization, especially at flower initiation. Monitor for Aphids, Botrytis, Powdery Mildew.

\* Preferred plug size for forcing culture

CLASS/SERIES	HARDINESS ZONE	RECOMMENDED PLUG SIZE	GROWING ON TEMPERATURE (DAYS/NIGHTS)	TARGET MEDIA PH/EC	DAYLENGTH	VERNALIZATION REQUIRED	FINISHING PROGRAMS FOR ANNUAL AND OVERWINTER PRODUCTION	KEY TIPS
DELPHINIUM <i>Delphinium elatum</i> <b>Guardian F<sub>1</sub> Series</b>	4-7	288	(day) 65-70°F (18-21°C) (night) 60°F (16°C)	5.8-6.2 pH 1.4-1.5 mmhos/cm	Facultative Long Day	No	Annual, 5"/6"/1 Gallon, 1 (ppp), 11-13 (weeks), Summer PGR paclobutrazol 20 ppm Spray Annual, 5"/6"/1 Gallon, 1 (ppp), 12-16 (weeks), Spring PGR paclobutrazol 20 ppm Spray	PGRs: 2 Bonzi sprays, the first approximately 3 weeks after transplant and the second approximately 2 weeks later. Possible third application may be necessary, subject to conditions. Delphinium are especially sensitive to Powdery Mildew; spray preventively if necessary. Ship and sell latest with flower spike one third open to decrease risk of petal shattering. See Cut Flower section for more details on cut flower production. Container production: PGR Bonzi (paclobutrazol) 1 or 2 applications 20 ppm spray.
DIANTHUS <i>Dianthus barbatus interspecific</i> <b>Bouquet F<sub>1</sub> Series</b>	4-8	288	(day) 60-72°F (16-22°C) (night) 50-60°F (10-16°C)	5.8-6.2 pH 1.5-2.0 mmhos/cm	Facultative Long Day Long day beneficial	No	Annual, 4"/4.5"/Quart, 1 (ppp), 9-10 (weeks), Spring PGR paclobutrazol 15-20 ppm Spray Annual, 5"/6"/1 Gallon, 1-3 (ppp), 9-10 (weeks), Spring PGR paclobutrazol 15-20 ppm Spray Annual, 5"/6"/1 Gallon, 3 (ppp), 8-9 (weeks), Autumn PGR paclobutrazol 15-20 ppm Spray Annual, 10" Pot or HB/3 Gallon, 4 (ppp), 8-9 (weeks), Autumn PGR paclobutrazol 15-20 ppm Spray	3-4 applications of PGRs are needed to produce in quart or gallon containers.
DIANTHUS <i>Dianthus x barbatus interspecific</i> <b>Rockin' F<sub>1</sub> Series</b>	5-8	288	(day) 60-72°F (16-22°C) (night) 50-60°F (10-16°C)	5.8-6.2 pH 1.5-2.0 mmhos/cm	Facultative Long Day Long day beneficial	No	Annual, 4"/4.5"/Quart, 1 (ppp), 9-10 (weeks), Spring PGR paclobutrazol 15-20 ppm Spray Annual, 5"/6"/1 Gallon, 1-3 (ppp), 9-10 (weeks), Spring PGR paclobutrazol 15-20 ppm Spray Annual, 5"/6"/1 Gallon, 3 (ppp), 8-9 (weeks), Autumn PGR paclobutrazol 15-20 ppm Spray Annual, 10" Pot or HB/3 Gallon, 4 (ppp), 8-9 (weeks), Autumn PGR paclobutrazol 15-20 ppm Spray	3-4 applications of PGRs are needed to produce in quart or gallon containers.
DIGITALIS <i>Digitalis purpurea</i> <b>Dalmatian F<sub>1</sub> Series</b>	5-9	288 128*	(day) 60-68°F (16-20°C) (night) 50-65°F (10-18°C)	5.8-6.2 pH 1.0-1.5 mmhos/cm	Facultative Long Day Daylength: 14 hours.	No	Annual, 5"/6"/1 Gallon, 1-2 (ppp), 10-12 (weeks), Summer, ADT 68°F (20°C) PGR uniconazole 5 ppm Spray Annual, 5"/6"/1 Gallon, 1-2 (ppp), 10-12 (weeks), Summer, ADT 68°F (20°C) PGR daminozide 2,500-3,500 ppm Spray Forcing, 5"/6"/1 Gallon, 1-2 (ppp), 12-13 (weeks), Late Spring, ADT 68°F (20°C) PGR daminozide 2,500-3,500 ppm Spray Forcing, 5"/6"/1 Gallon, 1-2 (ppp), 12-13 (weeks), Late Spring, ADT 68°F (20°C) PGR paclobutrazol 5-10 ppm Spray Annual, 5"/6"/1 Gallon, 1-2 (ppp), 10-12 (weeks), Summer, ADT 68°F (20°C) PGR paclobutrazol 5-10 ppm Spray Forcing, 5"/6"/1 Gallon, 1-2 (ppp), 12-13 (weeks), Late Spring, ADT 68°F (20°C) PGR daminozide 2,500-3,500 ppm Spray Forcing, 8"/2 Gallon, 3-4 (ppp), 12-13 (weeks), Late Spring, ADT 68°F (20°C) PGR uniconazole 5 ppm Spray Forcing, 8"/2 Gallon, 3-4 (ppp), 12-13 (weeks), Late Spring, ADT 68°F (20°C) PGR daminozide 2,500-3,500 ppm Spray Annual, 8"/2 Gallon, 3-4 (ppp), 10-12 (weeks), Summer PGR paclobutrazol 5-10 ppm Spray Annual, 8"/2 Gallon, 3-4 (ppp), 10-12 (weeks), Summer PGR uniconazole 5 ppm Spray Annual, 8"/2 Gallon, 3-4 (ppp), 10-12 (weeks), Summer PGR daminozide 2,500-3,000 ppm Spray Forcing, 8"/2 Gallon, 3-4 (ppp), 12-13 (weeks), Late Spring, ADT 68°F (20°C) PGR paclobutrazol 5-10 ppm Spray	Digitalis can be grown under high light, provided there is enough moisture. Monitor media EC when generative and maintain levels. Avoid drying out, as this could cause flower abortion..
ECHINACEA <i>Echinacea x hybrida</i> <b>Cheyenne Spirit</b>	4-10	128 72*	(day) 65-75°F (18-24°C) (night) 60-65°F (16-18°C)	5.8-6.5 pH 1.5-2.0 mmhos/cm	Short Day-Long Day Best plant structure comes with short day conditions (12 hours or less) until 7-mature leaf stage, then long days. For forcing info: See Perennials Forcing Guide.	No - but beneficial	Overwinter, 5"/6"/1 Gallon, 1-3 (ppp), 30-34 (weeks), Late Spring, ADT 72°F (22°C) Annual, 5"/6"/1 Gallon, 1-3 (ppp), 13-17 (weeks), Late Spring, ADT 72°F (22°C) Forcing, 5"/6"/1 Gallon, 1-3 (ppp), 9-11 (weeks), Late Summer, ADT 72°F (22°C)	
ECHINACEA <i>Echinacea purpurea</i> <b>PowWow® Series</b>	4-10	128 72*	(day) 65-75°F (18-24°C) (night) 60-65°F (16-18°C)	5.8-6.5 pH 1.5-2.0 mmhos/cm	Short Day-Long Day Best plant structure comes with short day conditions (12 hours or less) until 7-mature leaf stage, then long days. For forcing info: See Perennials Forcing Guide.	No - but beneficial	Overwinter, 5"/6"/1 Gallon, 1-3 (ppp), 30-34 (weeks), Late Spring, ADT 72°F (22°C) Forcing, 5"/6"/1 Gallon, 1-3 (ppp), 9-11 (weeks), Late Summer, ADT 72°F (22°C) Annual, 5"/6"/1 Gallon, 1-3 (ppp), 13-17 (weeks), Late Spring, ADT 72°F (22°C)	
GAILLARDIA <i>Gaillardia x grandiflora</i> <b>Mesa F<sub>1</sub> Series</b>	5-10	128 288*	(day) 60-70°F (16-21°C) (night) 50-60°F (10-16°C)	5.5-6.2 pH 1.5-2.0 mmhos/cm	Facultative Long Day Critical daylength: 13 hours	No	Forcing, 4"/4.5"/Quart, 1 (ppp), 9-11 (weeks), Late Summer, ADT 72°F (22°C) Annual, 4"/4.5"/Quart, 1 (ppp), 10-14 (weeks), Late Spring, ADT 68°F (20°C)	PGRs are generally not necessary if grown cooler. If necessary, apply daminozide 2,500 to 5,000 ppm spray.

\* Preferred plug size for forcing culture

CLASS/SERIES	HARDINESS ZONE	RECOMMENDED PLUG SIZE	GROWING ON TEMPERATURE (DAYS/NIGHTS)	TARGET MEDIA PH/EC	DAYLENGTH	VERNALIZATION REQUIRED	FINISHING PROGRAMS FOR ANNUAL AND OVERWINTER PRODUCTION	KEY TIPS
GAURA <i>Gaura lindheimeri</i> <b>Sparkle White</b>	5-9	288	(day) 59-70°F (15-21°C) (night) 50-64°F (10-18°C)	5.5-6.2 pH 1.5-2.0 mmhos/cm	Quantitative long day plant with critical daylength of 13 hours.	No	Annual, 4"/4.5"/Quart, 1 (ppp), 7-8 (weeks), Spring PGR daminozide/chlormequat chloride tank mix 2,500/750-2,500/1,000 ppm Spray Annual, 5"/6"/1 Gallon, 1 (ppp), 8-9 (weeks), Spring PGR daminozide/chlormequat chloride tank mix 2,500/750-2,500/1,000 ppm Spray Annual, 5"/6"/1 Gallon, 1-3 (ppp), 8-9 (weeks), Spring PGR daminozide/chlormequat chloride tank mix 2,500/750-2,500/1,000 ppm Spray	Well-drained soil. Dislikes wet Winter soils. Monitor for Aphids. Cold growing at 55°F (13°C); add 4 to 5 weeks crop time. See GrowerFacts for more details on overwintered production.
GYP SOPHILA <i>Gypsophila cerastoides</i> <b>Pixie Splash</b>	4-7	288	(day) 60-65°F (16-18°C) (night) 50-58°F (10-14°C)	5.8-6.5 pH 1.0-1.2 mmhos/cm	Day Neutral	Yes - duration of 8 weeks; max 40°F (4°C)	Overwinter, 4"/4.5"/Quart, 1 (ppp), 26-40 (weeks), Spring	Well-drained soil. Dislikes wet Winter soils. Moderate fertilization. Monitor for Botrytis, Aphids, Spider Mites and Whiteflies. Nice for perennial combo and edging. Foliage turns purple with cold, partly reversible.
HEUCHERA <i>Heuchera x hybrida</i> <b>Melting Fire</b>	5-8	288 128*	(day) 60-68°F (16-20°C) (night) 58-60°F (14-16°C)	5.8-6.2 pH 1.2-1.4 mmhos/cm	Day Neutral	No - vernalization not needed when sold for foliage	Forcing, 4"/4.5"/Quart, 1 (ppp), 11-12 (weeks), Late Spring, ADT 68°F (20°C) Forcing, 4"/4.5"/Quart, 1 (ppp), 11-12 (weeks), Autumn, ADT 68°F (20°C) Overwinter, 5"/6"/1 Gallon, 1 (ppp), 28-36 (weeks), Spring Overwinter, 5"/6"/1 Gallon, 1-3 (ppp), 30-36 (weeks), Spring Forcing, 5"/6"/1 Gallon, 1-3 (ppp), 13-14 (weeks), Late Spring, ADT 68°F (20°C) Forcing, 5"/6"/1 Gallon, 1-3 (ppp), 12-13 (weeks), Autumn, ADT 68°F (20°C)	Do not plant plugs too deep. Keep plug surface at the same level as the media surface. Avoid wet and overly dry. Needs well-drained medium.
HEUCHERA <i>Heuchera micrantha</i> <b>Palace Purple</b>	4-7	288 128*	(day) 65-68°F (18-20°C) (night) 60-65°F (16-18°C)	5.8-6.2 pH 1.2-1.4 mmhos/cm	Day Neutral	No - vernalization not needed when sold for foliage	Forcing, 4"/4.5"/Quart, 1 (ppp), 10-11 (weeks), Late Spring, ADT 68°F (20°C) Forcing, 4"/4.5"/Quart, 1 (ppp), 9-10 (weeks), Autumn, ADT 68°F (20°C) Forcing, 5"/6"/1 Gallon, 1-2 (ppp), 10-11 (weeks), Autumn, ADT 68°F (20°C) Overwinter, 5"/6"/1 Gallon, 1 (ppp), 26-32 (weeks), Spring Overwinter, 5"/6"/1 Gallon, 1-3 (ppp), 28-32 (weeks), Spring Forcing, 5"/6"/1 Gallon, 1-2 (ppp), 11-12 (weeks), Late Spring, ADT 68°F (20°C)	Do not plant plugs too deep. Keep plug surface at the same level as the media surface. Grow relatively dry. Needs well-drained medium.
HIBISCUS <i>Hibiscus moscheutos</i> <b>Luna F<sub>1</sub> Series</b>	5-9	288 128*	(day) 70-85°F (21-29°C) (night) 65-70°F (18-21°C)	6.0-6.5 pH 1.5-2.0 mmhos/cm	Facultative Long Day Long day min. 12 hours; optimum 14 hours or longer.	No - damage to plugs results below 41°F (5°C)	Annual, 4"/4.5"/Quart, 1 (ppp), 10-13 (weeks), Summer PGR daminozide/chlormequat chloride tank mix 750-2,500 ppm Spray Annual, 5"/6"/1 Gallon, 1 (ppp), 10-13 (weeks), Summer PGR daminozide/chlormequat chloride tank mix 750-2,500 ppm Spray	Does not need pinching. Maintain media in high moisture. Growing plant too dry will result in flower bud abortion. Monitor for Thrips, Aphids and Spider Mites. Growth stops and lower leaves turn yellow when grown below 68°F (20°C). In Southern climates, stronger PGRs may be needed; option is Bonzi 0.5 ppm drench. High light will promote branching and reduce plant height. Spacing when plants touch each other is highly recommended.
IBERIS <i>Iberis sempervirens</i> <b>Whiteout</b>	3-8	288	(day) 60-72°F (16-22°C) (night) 41-50°F (5-10°C)	5.5-6.2 pH 1.2-1.4 mmhos/cm	Day Neutral	Yes - minimum 8 to 10 weeks. Plants should be bulked for about 8 to 10 weeks before being receptive to cold treatment.	Overwinter, 4"/4.5"/Quart, 1 (ppp), 26-36 (weeks), Early Spring	No pinch needed. Allow enough bulk time; grow in active climate. Monitor for Downy and Powdery Mildew; spray preventively.
LAVANDULA <i>Lavandula angustifolia</i> <b>Avignon Early Blue</b>	6-8	288 128*	(day) 60-72°F (16-22°C) (night) 46-54°F (8-12°C)	5.8-6.5 pH 1.1-1.4 mmhos/cm	Day Neutral See Lavender Scheduling Tool at panamseed.com for finishing schedules per region.	No	Annual, 4"/4.5"/Quart, 1 (ppp), 9-10 (weeks), Summer, ADT 60°F (16°C) PGR daminozide 2,000-3,000 ppm Spray Annual, 4"/4.5"/Quart, 1 (ppp), 9-11 (weeks), Late Spring, ADT 60°F (16°C) PGR daminozide 2,000-3,000 ppm Spray Annual, 5"/6"/1 Gallon, 1-3 (ppp), 9-10 (weeks), Summer, ADT 60°F (16°C) PGR daminozide 2,000-3,000 ppm Spray Annual, 5"/6"/1 Gallon, 1-3 (ppp), 10-11 (weeks), Late Spring, ADT 60°F (16°C) PGR daminozide 2,000-3,000 ppm Spray	Avoid planting plug too deep. Keep plug surface same as medium surface. Grow low RH and high light. Let top soil dry in between waterings, but do not allow medium to dry, as high EC could cause root damage. Monitor for Botrytis, Root Rot, Leafspot, Aphids and Mites. For shipping, keep soil moist and plant dry. Use Avignon Early Blue for annual early Southwest and Northwest season and Ellagance Purple for annual early Southeast season. Lavance is best for Summer production, has best bulk. Do not plan this variety for early season. Growth is delayed in cool conditions. See the Lavender Scheduling Tool at panamseed.com for finishing schedules by region. For overwintered production, cut back just below top foliage; do this mid-Autumn, approximately 4 weeks before dormant period, or in Spring just before regrowth.
LAVANDULA <i>Lavandula stoechas</i> <b>Bandera Series</b>	7-10	288 128*	(day) 65-68°F (18-20°C) (night) 55-64°F (13-18°C)	5.5-6.0 pH 1.0-1.2 mmhos/cm	Facultative Long Day See Lavender Scheduling Tool at panamseed.com for finishing schedules by region. Long day beneficial, but will flower in short days.	No	Annual, 4"/4.5"/Quart, 1 (ppp), 12-14 (weeks), Spring Overwinter, 4"/4.5"/Quart, 1 (ppp), 24-32 (weeks), Early Spring Annual, 5"/6"/1 Gallon, 1-3 (ppp), 12-14 (weeks), Spring	Don't plant too deep since Bandera has low and deep branching, and Botrytis could more easily affect plants. Need cool production to reach sufficient flag size, see Scheduling tool. High pH (above 6.8) can cause leaf chlorosis.
LAVANDULA <i>Lavandula angustifolia</i> <b>Blue Spear</b>	6-8	288 128*	(day) 60-72°F (16-22°C) (night) 54-60°F (12-16°C)	5.8-6.5 pH 1.1-1.4 mmhos/cm	Obligate Long Day Critical Daylength: 13 hours See Lavender Scheduling Tool at panamseed.com for finishing schedules per region.	No	Annual, 4"/4.5"/Quart, 1 (ppp), 9-12 (weeks), Late Spring, ADT 65°F (18°C) PGR daminozide 2,000-3,000 ppm Spray Annual, 4"/4.5"/Quart, 1 (ppp), 9-10 (weeks), Summer, ADT 65°F (18°C) PGR daminozide 2,000-3,000 ppm Spray Annual, 5"/6"/1 Gallon, 1-3 (ppp), 9-11 (weeks), Summer, ADT 65°F (18°C) PGR daminozide 2,000-3,000 ppm Spray Annual, 5"/6"/1 Gallon, 1-3 (ppp), 10-12 (weeks), Late Spring, ADT 65°F (18°C) PGR daminozide 2,000-3,000 ppm Spray	Avoid planting plugs deep. Keep plug surface same as medium surface. Grow low RH and high light. Let top soil dry in between waterings, but do not allow medium to dry as high EC could cause root damage. Monitor for Botrytis, Root Rot, Leafspot, Aphids and Mites. For shipping, keep soil moist and plant dry.

\* Preferred plug size for forcing culture

CLASS/SERIES	HARDINESS ZONE	RECOMMENDED PLUG SIZE	GROWING ON TEMPERATURE (DAYS/NIGHTS)	TARGET MEDIA PH/EC	DAYLENGTH	VERNALIZATION REQUIRED	FINISHING PROGRAMS FOR ANNUAL AND OVERWINTER PRODUCTION	KEY TIPS
LAVANDULA <i>Lavandula angustifolia</i> <b>Ellagance Series</b>	5-8	288 128*	(day) 60-72°F (16-22°C) (night) 54-60°F (12-16°C)	5.8-6.5 pH 1.1-1.4 mmhos/cm	Facultative Long Day Critical Daylength for Ellagance Purple and Pink is 10 hours; all other varieties are Obligate Long Day with critical daylength of about 13-14 hours. See Lavender Scheduling Tool at panamseed.com for finishing schedules by region.	No	<b>Overwinter, 4"/4.5"/Quart</b> , 1 (ppp), 28-36 (weeks), Spring, ADT 65°F (18°C) <b>PGR</b> daminozide 2,000-3,000 ppm Spray <b>Annual, 4"/4.5"/Quart</b> , 1 (ppp), 9-12 (weeks), Late Spring, ADT 65°F (18°C) <b>PGR</b> daminozide 2,000-3,000 ppm Spray <b>Annual, 5"/6"/1 Gallon</b> , 1-3 (ppp), 9-12 (weeks), Late Spring, ADT 65°F (18°C) <b>PGR</b> daminozide 2,000-3,000 ppm Spray	Avoid planting plugs deep. Keep plug surface same as medium surface. Grow low RH and high light. Let top soil dry in between waterings, but do not allow medium to dry as high EC could cause root damage. Monitor for Botrytis, Root Rot, Leafspot, Aphids and Mites. For shipping, keep soil moist and plant dry. Scheduling is different between colours: Purple and Pink are the same and the fastest (as indicated lead time); Sky adds 1 week; Ice adds 3 weeks, and Snow adds 4 to 5 weeks. See Scheduling Tool for regional lead times. For overwintering production, cut back just below top foliage; do this mid-Autumn, approximately 4 weeks before dormant period, or in Spring just before regrowth.
LAVANDULA <i>Lavandula angustifolia</i> <b>Lavance Deep Purple</b>	5-8	288 128*	(day) 60-72°F (16-22°C) (night) 60-65°F (16-18°C)	5.8-6.5 pH 1.1-1.4 mmhos/cm	Obligate Long Day Critical Daylength: 14 hours See Lavender Scheduling Tool at panamseed.com for finishing schedules per region.	No	<b>Annual, 4"/4.5"/Quart</b> , 1 (ppp), 9-11 (weeks), Summer, ADT 65°F (18°C) <b>PGR</b> daminozide 2,000-3,000 ppm Spray <b>Annual, 4"/4.5"/Quart</b> , 1 (ppp), 10-11 (weeks), Autumn, ADT 65°F (18°C) <b>PGR</b> daminozide 2,000-3,000 ppm Spray <b>Overwinter, 4"/4.5"/Quart</b> , 1-3 (ppp), 30-38 (weeks), Late Spring, ADT 60°F (16°C) <b>PGR</b> daminozide 2,000-3,000 ppm Spray <b>Annual, 5"/6"/1 Gallon</b> , 1-3 (ppp), 10-11 (weeks), Summer, ADT 65°F (18°C) <b>PGR</b> daminozide 2,000-3,000 ppm Spray <b>Annual, 5"/6"/1 Gallon</b> , 1-3 (ppp), 10-12 (weeks), Autumn, ADT 65°F (18°C) <b>PGR</b> daminozide 2,000-3,000 ppm Spray <b>Overwinter, 5"/6"/1 Gallon</b> , 1-3 (ppp), 30-38 (weeks), Late Spring, ADT 60°F (16°C) <b>PGR</b> daminozide 2,000-3,000 ppm Spray	Avoid planting plug too deep. Keep plug surface same as medium surface. Grow low RH and high light. Let top soil dry in between waterings, but do not allow medium to dry, as high EC could cause root damage. Monitor for Botrytis, Root Rot, Leafspot, Aphids and Mites. For shipping, keep soil moist and plant dry. Lavance is best for Summer production, has best bulk. Do not plan early season. Growth is delayed in cool conditions. Use Ellagance Purple for annual early Southeast season and Avignon Early Blue for annual early South and Northwest season. See Lavender Scheduling Tool at panamseed.com for finishing schedules by region. For overwintered production, cut back just below top foliage; do this mid-Autumn, approximately 4 weeks before dormant period, or in Spring just before regrowth.
LAVANDULA <i>Lavandula multifida</i> <b>Spanish Eyes</b>	7-10	288	(day) 65-70°F (18-21°C) (night) 57-59°F (14-15°C)	5.8-6.2 pH 1.1-1.3 mmhos/cm	Facultative Long Day	No	<b>Annual, 4"/4.5"/Quart</b> , 1 (ppp), 12-14 (weeks), Summer <b>PGR</b> daminozide 2,000-3,000 ppm Spray <b>Annual, 8"/2 Gallon</b> , 3-5 (ppp), 12-15 (weeks), Summer <b>PGR</b> daminozide 2,000-3,000 ppm Spray	Grow relatively dry and provide active climate. Vigorous Lavandula needs more PGRs than L. angustifolia and L. stoechas, and is a long-flowering annual.
LOBELIA <i>Lobelia x speciosa</i> <b>Starship F<sub>1</sub> Series</b>	6-10	288	(day) 65-70°F (18-21°C) (night) 60-65°F (16-18°C)	5.8-6.6 pH 1.1-1.3 mmhos/cm	Long Day Plants. Scarlet is a Facultative Long Day plant that flowers faster at 13 hours or longer. Deep Rose is an Obligate Long Day plant and requires 13 hours or longer for flowering. See Perennials Forcing Guide for more info on scheduling and plug size and treatments. Forcing for Summer and Autumn sales target Weeks 25 or later. Sow Week 15 to 17, using 288 trays. Grow plugs under 10-hour short-day conditions using black cloth until ready to transplant. Allow about 8 to 9 weeks during Summer production. After short-day treatment, transplant to final container and grow under natural long days. Outdoor production is recommended. Total crop time is approximately 19 to 20 weeks.	No	<b>Annual, 4"/4.5"/Quart</b> , 1 (ppp), 13-17 (weeks), Summer <b>PGR</b> paclobutrazol 30 ppm Spray <b>Annual, 4"/4.5"/Quart</b> , 1 (ppp), 13-17 (weeks), Summer <b>PGR</b> uniconazole 5 ppm Spray <b>Annual, 5"/6"/1 Gallon</b> , 2-3 (ppp), 13-17 (weeks), Summer <b>PGR</b> paclobutrazol 30 ppm Spray <b>Annual, 5"/6"/1 Gallon</b> , 2-3 (ppp), 13-17 (weeks), Summer <b>PGR</b> uniconazole 5 ppm Spray <b>Forcing, 5"/6"/1 Gallon</b> , 2-3 (ppp), 11-13 (weeks), Spring, ADT 68°F (20°C) <b>Forcing, 5"/6"/1 Gallon</b> , 2-3 (ppp), 9-10 (weeks), Autumn, ADT 68°F (20°C) <b>Forcing, 8"/2 Gallon</b> , 4-6 (ppp), 9-10 (weeks), Autumn, ADT 68°F (20°C) <b>Forcing, 8"/2 Gallon</b> , 4-6 (ppp), 11-13 (weeks), Spring, ADT 68°F (20°C)	Avoid drought stress. Grow evenly moist but not wet. Monitor for Snails, Slugs, Root and Crown Rot, Pythium, Phytophthora (if too wet). Control Thrips, as Lobelia is very susceptible to INSV damage.
LOBELIA <i>Lobelia x speciosa</i> <b>Vulcan Red</b>	6-10	288	(day) 65-70°F (18-21°C) (night) 60-65°F (16-18°C)	5.8-6.6 pH 1.1-1.3 mmhos/cm	Obligate Long Day Long day required - minimum 14 hours.	No	<b>Annual, 4"/4.5"/Quart</b> , 1 (ppp), 14-19 (weeks), Summer <b>PGR</b> paclobutrazol 30 ppm Spray <b>Annual, 4"/4.5"/Quart</b> , 1 (ppp), 14-19 (weeks), Summer <b>PGR</b> uniconazole 5 ppm Spray <b>Annual, 5"/6"/1 Gallon</b> , 2-3 (ppp), 14-19 (weeks), Summer <b>PGR</b> paclobutrazol 30 ppm Spray <b>Annual, 5"/6"/1 Gallon</b> , 2-3 (ppp), 14-19 (weeks), Summer <b>PGR</b> uniconazole 5 ppm Spray	Avoid drought stress. Grow evenly moist but not wet. Monitor for Snails, Slugs, Root and Crown Rot, Pythium, Phytophthora (if too wet). Control Thrips, as Lobelia is very susceptible to INSV damage.
MYOSOTIS <i>Myosotis sylvatica</i> <b>Mon Amie Blue</b>	6-8	288	(day) 60-70°F (16-21°C) (night) 50-55°F (10-13°C)	5.6-5.8 pH 1.3-1.5 mmhos/cm	Day Neutral	No	<b>Overwinter, 4"/4.5"/Quart</b> , 1 (ppp), 16-22 (weeks), Early Spring <b>PGR</b> daminozide/chloromequat chloride tank mix 3,500-750 ppm Spray <b>Annual, 4"/4.5"/Quart</b> , 1 (ppp), 7-9 (weeks), Spring <b>PGR</b> daminozide/chloromequat chloride tank mix 3,500-750 ppm Spray	Maintain low pH. Myosotis suffer from chlorosis at high pH. Grow like Primula acaulis. See GrowerFacts for details on how to mitigate chlorosis caused by high pH.

\* Preferred plug size for forcing culture

CLASS/SERIES	HARDINESS ZONE	RECOMMENDED PLUG SIZE	GROWING ON TEMPERATURE (DAYS/NIGHTS)	TARGET MEDIA PH/EC	DAYLENGTH	VERNALIZATION REQUIRED	FINISHING PROGRAMS FOR ANNUAL AND OVERWINTER PRODUCTION	KEY TIPS
NEPETA <i>Nepeta nervosa</i> <b>Blue Moon</b>	4-7	288	(day) 60-65°F (16-18°C) (night) 54-60°F (12-16°C)	5.8-6.5 pH 1.2-1.4 mmhos/cm	Facultative Long Day Long day beneficial.	No	Annual, 4"/4.5"/Quart, 1 (ppp), 8-12 (weeks), Late Spring PGR daminozide 2,500 ppm Spray Annual, 5"/6"/1 Gallon, 2-3 (ppp), 8-12 (weeks), Late Spring PGR daminozide 2,500 ppm Spray	Grow relatively dry. Prevent Mg and Fe deficiencies. Monitor for Botrytis, Downy Mildew and Aphids.
NEPETA <i>Nepeta nervosa</i> <b>Pink Cat</b>	4-7	288	(day) 60-65°F (16-18°C) (night) 54-60°F (12-16°C)	5.8-6.5 pH 1.2-1.4 mmhos/cm	Facultative Long Day Long day beneficial.	No	Annual, 4"/4.5"/Quart, 1 (ppp), 8-12 (weeks), Late Spring PGR daminozide 2,500 ppm Spray Annual, 5"/6"/1 Gallon, 2-3 (ppp), 8-12 (weeks), Late Spring PGR daminozide 2,500 ppm Spray	Grow relatively dry. Prevent Mg and Fe deficiencies. Monitor for Botrytis, Downy Mildew and Aphids.
PAPAVER <i>Papaver nudicaule</i> <b>Champagne Bubbles F<sub>1</sub> Series</b>	4-8	288	(day) 50-55°F (10-13°C) (night) 40-45°F (4-7°C)	5.5-6.0 pH 1.2-1.4 mmhos/cm	Day Neutral	No	Annual, 4"/4.5"/Quart, 1 (ppp), 5-10 (weeks), Late Spring Annual, 5"/6"/1 Gallon, 2-3 (ppp), 6-11 (weeks), Late Spring	Suffers from chlorosis at high pH (above 6.1), due to iron deficiency. Moderate fertilization, well-drained soil.
PENSTEMON <i>Penstemon x mexicali</i> <b>Carillo Series</b>	5-7	288 128*	(day) 65-72°F (18-22°C) (night) 55-59°F (13-15°C)	5.8-6.5 pH 1.1-1.4 mmhos/cm	Facultative Long Day Critical daylength 13 hrs. For more info: See Perennials Forcing Guide.	No	Annual, 4"/4.5"/Quart, 1 (ppp), 12-14 (weeks), Late Spring PGR daminozide 1,500-2,500 ppm Spray Annual, 4"/4.5"/Quart, 1 (ppp), 12-14 (weeks), Summer PGR daminozide 1,500-2,500 ppm Spray Annual, 5"/6"/1 Gallon, 2-3 (ppp), 12-14 (weeks), Late Spring PGR daminozide 1,500-2,500 ppm Spray Annual, 5"/6"/1 Gallon, 2-3 (ppp), 12-14 (weeks), Summer PGR daminozide 1,500-2,500 ppm Spray	Needs high light. Low RH. Grow relatively dry. Prevent Mg and Fe deficiency. Monitor for Leafspot, Powdery Mildew, Slugs, Snails and Leaf Eelworm. Carillo Red is more sensitive to cold, showing yellow leaf tips that will reverse with higher temp.
PENSTEMON <i>Penstemon heterophyllus</i> <b>Electric Blue</b>	6-8	288	(day) 66-70°F (19-21°C) (night) 62-66°F (17-19°C)	5.8-6.5 pH 1.0-1.5 mmhos/cm	Day Neutral Needs high light intensity for complete, rapid and uniform flowering.	No - but beneficial; cooled plants flower more uniformly and faster than non-cooled plants; duration of 10 weeks at 41°F (5°C)	Annual, 4"/4.5"/Quart, 1 (ppp), 11-13 (weeks), Summer Annual, 4"/4.5"/Quart, 1 (ppp), 12-14 (weeks), Late Spring Annual, 5"/6"/1 Gallon, 2-3 (ppp), 11-13 (weeks), Summer Annual, 5"/6"/1 Gallon, 2-3 (ppp), 12-14 (weeks), Late Spring	Bulking prior to vernalization ensures pot-fill and improves flowering uniformity. Monitor for Whiteflies.
PEROVSKIA <i>Perovskia atriplicifolia</i> <b>Blue Steel</b>	4-9	288 128*	(day) 60-68°F (16-20°C) (night) 55-60°F (13-16°C)	5.8-6.2 pH 1.2-1.4 mmhos/cm	Day Neutral Light accumulator - higher light levels increase development and finish.	No	Annual, 4"/4.5"/Quart, 1 (ppp), 9-10 (weeks), Summer PGR daminozide 2,500-3,000 ppm Spray Annual, 4"/4.5"/Quart, 1 (ppp), 11-13 (weeks), Late Spring, ADT 68°F (20°C) PGR daminozide 2,500-3,000 ppm Spray Annual, 4"/4.5"/Quart, 1 (ppp), 9-10 (weeks), Autumn, ADT 68°F (20°C) PGR daminozide 2,500-3,000 ppm Spray Annual, 5"/6"/1 Gallon, 1-3 (ppp), 10-11 (weeks), Summer PGR daminozide 2,500-3,000 ppm Spray Annual, 5"/6"/1 Gallon, 1-3 (ppp), 12-14 (weeks), Late Spring, ADT 68°F (20°C) PGR daminozide 2,500-3,000 ppm Spray Annual, 5"/6"/1 Gallon, 1-3 (ppp), 10-11 (weeks), Autumn, ADT 68°F (20°C) PGR daminozide 2,500-3,000 ppm Spray Annual, 8"/2 Gallon, 3-5 (ppp), 13-15 (weeks), Late Spring PGR daminozide 5,000 ppm Spray Annual, 8"/2 Gallon, 3-5 (ppp), 11-13 (weeks), Autumn, ADT 68°F (20°C) PGR daminozide 5,000 ppm Spray Annual, 8"/2 Gallon, 3-5 (ppp), 11-13 (weeks), Summer, ADT 68°F (20°C) PGR daminozide 5,000 ppm Spray	Needs active growing climate with highest possible light levels. Optimum larger than 15 Mol per m <sup>2</sup> per day. Can grow in lower light levels, but increases crop time (see lead time per season). Do not start crop too early in cold nights and lower light levels, will cause delay. Best grown outside. Finish lead times for Northwest Europe: add 2 to 3 weeks to indicated lead times. Allow media to dry in between waterings. Avoid growing wet. Monitor EC in pot during active growth to avoid leaf yellowing (chlorosis). Gallon is main size; recommend 3 ppp, potted in triangle, for superior finished quality (compared to veg. 1 plant per pot). If plugs are not pinched, pinch 2 to 3 weeks after transplant, above 4 to 5 leaf node pairs. NOTE: Pinch not needed for larger (2 gallon and up) containers. Instead, use higher B-Nine concentration 5,000 ppm for 1 to 2 applications, the first 2 to 3 weeks after transplant.
RUDBECKIA <i>Rudbeckia fulgida var. sullivantii</i> <b>Goldsturm</b>	3-9	288 72*	(day) 65-68°F (18-20°C) (night) 60-65°F (16-18°C)	5.8-6.5 pH 1.2-1.5 mmhos/cm	Short Day-Long Day Best plant structure comes under Short Day conditions (12 hours or less) until 10-leaf stage, then Long Day. For forcing info: see Perennials Forcing Guide.	No	Annual, 4"/4.5"/Quart, 1 (ppp), 16-23 (weeks), Summer PGR paclobutrazol 20-30 ppm Spray Annual, 4"/4.5"/Quart, 1 (ppp), 16-23 (weeks), Summer PGR uniconazole 5-10 ppm Spray Annual, 5"/6"/1 Gallon, 2-3 (ppp), 16-24 (weeks), Summer PGR paclobutrazol 20-30 ppm Spray Annual, 5"/6"/1 Gallon, 2-3 (ppp), 16-24 (weeks), Summer PGR uniconazole 5-10 ppm Spray Overwinter, 5"/6"/1 Gallon, 1 (ppp), 32-34 (weeks), Summer PGR uniconazole 5-10 ppm Spray Overwinter, 8"/2 Gallon, 3-5 (ppp), 32-34 (weeks), Summer PGR paclobutrazol 20-30 ppm Spray	Relatively high feeder. Use long day or night interruption to finish early pottings or use vernalized plugs. Prevent Mg and Fe deficiency. Monitor for Botrytis and Downy Mildew. High light and good ventilation are beneficial. For Autumn forcing info: See Perennials Forcing Guide.
SALVIA <i>Salvia nemorosa (superba)</i> <b>New Dimension Series</b>	4-8	288 128*	(day) 60-72°F (16-22°C) (night) 50-59°F (10-15°C)	5.5-6.2 pH 0.9-1.3 mmhos/cm	Facultative Long Day For forcing info: See Perennials Forcing Guide.	No	Annual, 4"/4.5"/Quart, 1 (ppp), 7-9 (weeks), Summer PGR daminozide 1,500-2,000 ppm Spray Annual, 4"/4.5"/Quart, 1 (ppp), 8-11 (weeks), Late Spring PGR daminozide 1,500-2,000 ppm Spray Overwinter, 5"/6"/1 Gallon, 1 (ppp), 24-28 (weeks), Spring PGR daminozide 1,500-2,000 ppm Spray Annual, 5"/6"/1 Gallon, 3-4 (ppp), 7-9 (weeks), Summer PGR daminozide 1,500-2,000 ppm Spray Annual, 5"/6"/1 Gallon, 3-4 (ppp), 8-11 (weeks), Late Spring PGR daminozide 1,500-2,000 ppm Spray Overwinter, 8"/2 Gallon, 3-5 (ppp), 24-28 (weeks), Spring PGR daminozide 1,500-2,000 ppm Spray	Grow relatively dry. Avoid leaf yellow with high pH (Fe) and/or low N when generative. Spray weekly Bittersalt MGSO <sub>4</sub> 1g/liter. Monitor for Spider Mites, Rhizoctonia, Leafspot and Root Rot. Wet after transplant with preventive spray. Blue is 1 week later to finish.

\* Preferred plug size for forcing culture



CLASS/SERIES	HARDINESS ZONE	RECOMMENDED PLUG SIZE	GROWING ON TEMPERATURE (DAYS/NIGHTS)	TARGET MEDIA PH/EC	DAYLENGTH	VERNALIZATION REQUIRED	FINISHING PROGRAMS FOR ANNUAL AND OVERWINTER PRODUCTION	KEY TIPS
SALVIA <i>Salvia patens</i> <b>Patio Series</b>	8-10	288 128*	(day) 60-65°F (16-18°C) (night) 57-60°F (14-16°C)	5.8-6.5 pH 1.0-1.2 mmhos/cm	Facultative Long Day Long day beneficial. For more info: See Perennials Forcing Guide.	No	<b>Annual, 4"/4.5"/Quart</b> , 1 (ppp), 7-11 (weeks), Late Spring <b>PGR</b> daminozide 1,500-2,000 ppm Spray <b>Annual, 5"/6"/1 Gallon</b> , 3-4 (ppp), 7-11 (weeks), Late Spring <b>PGR</b> daminozide 1,500-2,000 ppm Spray	Grow relatively dry. Use well-drained medium. Prevent Mg and Fe deficiency. Monitor for Botrytis, Downy Mildew, Aphids and Spider Mites. High light and good ventilation are beneficial.
SAXIFRAGA <i>Saxifraga x arendsii</i> <b>Rocco Red</b>	4-7	288	(day) 60-65°F (16-18°C) (night) 40-50°F (4-10°C)	5.8-6.2 pH 1.0-1.2 mmhos/cm	Day Neutral	Yes - duration of 12 weeks at 41°F (5°C)	<b>Overwinter, 4"/4.5"/Quart</b> , 1 (ppp), 28-36 (weeks), Early Spring	Very well-drained medium. Prevent Mg and Fe deficiency. Grown best slightly dry to average moisture. Water thoroughly and allow to dry moderately. Monitor for Botrytis and Spider Mites.
SCABIOSA <i>Scabiosa columbaria</i> <b>Blue Note</b>	5-9	288 128*	(day) 65-68°F (18-20°C) (night) 60-65°F (16-18°C)	5.8-6.2 pH 1.1-1.3 mmhos/cm	Day Neutral	No	<b>Annual, 4"/4.5"/Quart</b> , 1 (ppp), 12-14 (weeks), Late Spring <b>Overwinter, 4"/4.5"/Quart</b> , 1 (ppp), 26-34 (weeks), Spring <b>Annual, 5"/6"/1 Gallon</b> , 3-4 (ppp), 12-14 (weeks), Late Spring	Needs high light, low RH. Grow relatively dry. Prevent Mg and Fe deficiency. Early-Spring forcing needs increased temperature during 6 weeks at 62 to 65°F (17 to 18°C), no long days. For forcing info for Mother's Day: See Perennials Forcing Guide.
SCABIOSA <i>Scabiosa japonica var. alpina</i> <b>Pink Diamonds</b>	5-9	288 128*	(day) 65-68°F (18-20°C) (night) 60-65°F (16-18°C)	5.8-6.2 pH 1.1-1.3 mmhos/cm	Day Neutral	No	<b>Annual, 4"/4.5"/Quart</b> , 1 (ppp), 12-14 (weeks), Late Spring <b>Overwinter, 4"/4.5"/Quart</b> , 1 (ppp), 26-34 (weeks), Spring <b>Annual, 5"/6"/1 Gallon</b> , 3-4 (ppp), 12-14 (weeks), Late Spring	Needs high light, low RH. Grow relatively dry. Prevent Mg and Fe deficiency. Early Spring forcing needs increased temperature during 6 weeks at 62-65, no long days.  For forcing info for Mother's Day: See Perennials Forcing Guide
SILENE <i>Silene alpestris</i> <b>Starry Dreams</b>	5-8	288	(day) 65-68°F (18-20°C) (night) 60-65°F (16-18°C)	5.8-6.5 pH 1.0-1.2 mmhos/cm	Long day required.	No	<b>Annual, 4"/4.5"/Quart</b> , 1 (ppp), 10-14 (weeks), Late Spring <b>PGR</b> daminozide 2,000-2,500 ppm Spray <b>Annual, 5"/6"/1 Gallon</b> , 3-4 (ppp), 10-14 (weeks), Late Spring <b>PGR</b> daminozide 2,000-2,500 ppm Spray	Low to moderate fertilization. Grow uniformly moist. Prevent Mg and Fe deficiency. Monitor for Aphids, Spider Mites, Slugs and Snails.
VERBASCUM <i>Verbascum x hybrida</i> <b>Southern Charm</b>	5-8	288	(day) 64-67°F (18-19°C) (night) 62-65°F (17-18°C)	5.8-6.5 pH 1.1-1.3 mmhos/cm	Day Neutral	No	<b>Annual, 5"/6"/1 Gallon</b> , 1 (ppp), 12-14 (weeks), Summer	Flowering more uniform under high light conditions.
VERBENA <i>Verbena bonariensis</i> <b>Buenos Aires</b>	7-9	288 128	(day) 65-68°F (18-20°C) (night) 60-65°F (16-18°C)	5.5-6.2 pH 1.3-1.5 mmhos/cm	Facultative Long Day For forcing info: See Perennials Forcing Guide.	No	<b>Annual, 4"/4.5"/Quart</b> , 1 (ppp), 11-13 (weeks), Late Spring <b>Annual, 5"/6"/1 Gallon</b> , 1-3 (ppp), 10-11 (weeks), Autumn, ADT 68°F (20°C) <b>PGR</b> daminozide 2,500-5,000 ppm Spray	Primarily sold green. Grow dry and light. Relatively high fertilization. Avoid high N. Prevent Mg and Fe deficiency.
VERBENA <i>Verbena rigida</i> <b>Santos Purple</b>	7-11	288 128*	(day) 65-68°F (18-20°C) (night) 60-65°F (16-18°C)	5.5-6.2 pH 1.3-1.5 mmhos/cm	Facultative Long Day For forcing info: See Perennials Forcing Guide.	No	<b>Annual, 4"/4.5"/Quart</b> , 1 (ppp), 11-14 (weeks), Late Spring <b>PGR</b> daminozide/chlormequat chloride tank mix 2,000-2,500 ppm Spray <b>Annual, 4"/4.5"/Quart</b> , 1 (ppp), 11-14 (weeks), Late Spring <b>PGR</b> daminozide 2,000-2,500 ppm Spray <b>Annual, 5"/6"/1 Gallon</b> , 3-4 (ppp), 10-13 (weeks), Summer <b>PGR</b> daminozide/chlormequat chloride tank mix 2,000-750 ppm Spray <b>Annual, 5"/6"/1 Gallon</b> , 3-4 (ppp), 10-13 (weeks), Summer <b>PGR</b> daminozide 2,000-2,500 ppm Spray <b>Annual, 5"/6"/1 Gallon</b> , 3-4 (ppp), 11-14 (weeks), Late Spring <b>PGR</b> daminozide/chlormequat chloride tank mix 2,000-750 ppm Spray <b>Annual, 5"/6"/1 Gallon</b> , 3-4 (ppp), 11-14 (weeks), Late Spring <b>PGR</b> daminozide 2,000-2,500 ppm Spray	Grow dry and light. Relatively high fertilization. Avoid high N. Prevent Mg and Fe deficiency.
VERONICA <i>Veronica spicata</i> <b>Blue Bouquet</b>	5-8	288	(day) 65°F (18°C) (night) 55-65°F (13-18°C)	5.5-6.2 pH 1.3-1.5 mmhos/cm	Day Neutral	No	<b>Annual, 5"/6"/1 Gallon</b> , 1 (ppp), 14-18 (weeks), Summer	

\* Preferred plug size for forcing culture

FORCING GUIDE FOR FIRST YEAR FLOWERING PERENNIALS FOR 2 MAJOR DATES IN NORTH AMERICA* (QUICK ANNUAL CYCLE)																					
GENUS	SPECIES	SERIES/VARIETY	USDA HARDINESS ZONE	FORCING FOR SPRING (WEEK 19)							FORCING FOR FALL (WEEK 36)							PLUGS PER POT			
				IDEAL SOWING WEEK	PLUG SIZE*	PLUG BULKED UNDER NATURAL SD OR <=12 HR GROW WEEKS	SUPPLEMENTAL LD (14 HR OR NJ) REQUIRED AFTER TRANSPLANT**	FINISH UNDER PROPER DAYLENGTH (H) AND ADT (J) GROW WEEKS	FINISH ADT (*F/^C)	IDEAL SOWING WEEK	PLUG SIZE	PLUG SD BULKING REQUIRED	PLUG GROW WEEKS	FINISH UNDER NATURAL LD AND ADT 72-75°F/22-24°C GROW WEEKS	1 QT	1 GAL	2 GAL	3 GAL (FALL)			
ARMERIA	<i>pseudarmeria</i>	<b>Ballerina</b>	7-9	49	288	7	No	15	60/16	-	-	-	-	-	1	3	-	-			
CAMPANULA	<i>carpatica</i>	<b>Rapido</b>	3-9	48-49	288	10	Yes	12-13	65/18	-	-	-	-	-	1	3-5	-	-			
COREOPSIS	<i>grandiflora</i>	<b>Double the Sun</b>	4-9	51-52	128	8	Yes	11-12	65/18	22	128	No	6-7	7	1	1-3	3-5	4-6			
COREOPSIS	<i>grandiflora</i>	<b>Early Sunrise</b>	4-9	49-50	128	8	Yes	12-13	68/20	-	-	-	-	-	1	1-3	3-5	-			
COREOPSIS	<i>grandiflora</i>	<b>Sunfire</b>	4-9	51-52	128	8	Yes	10-12	68/20	22	128	No	6-7	7	1	1-3	3-5	4-6			
COREOPSIS	<i>grandiflora</i>	<b>SunKiss</b>	4-9	51-52	128	8	Yes	10-11	68/20	22	128	No	6-7	7	1	1-3	3-5	4-6			
DELPHINIUM	<i>elatum</i>	<b>Guardian</b>	4-7	51-52	288	6-7	No	14	65/18	-	-	-	-	-	1	1	3	-			
DELPHINIUM	<i>belladonna</i>	<b>Blue Donna</b>	5-9	51-52	288	6-8	No	13	65/18	-	-	-	-	-	1	1	3	-			
DELPHINIUM	<i>grandiflorum</i>	<b>Diamonds Blue</b>	4-9	51-52	288	7	No	14	65/18	-	-	-	-	-	1	1-3	3	-			
DIANTHUS	<i>barbatus interspecific</i>	<b>Rockin' Red</b>	4-9	1-2	288	5	No	13	60/16	22	288	No	5	8	1	3	3	4			
DIANTHUS	<i>barbatus</i>	<b>Dash</b>	6	1-2	288	5	No	13	60/16	22	288	No	5	8-9	1	1	3	4			
DIANTHUS	<i>barbatus</i>	<b>Sweet</b>	6	1-2	288	5	No	13	60/16	-	-	-	-	-	1	1	3	-			
DIANTHUS	<i>barbatus interspecific</i>	<b>Dynasty</b>	6	1-2	288	5	No	13	60/16	24	288	No	5	6	1	1	3	4			
DIANTHUS	<i>barbatus interspecific</i>	<b>Jolt</b>	7	1-2	288	5	No	13	68/20	19-20	288	No	5	9-10	1	1	3	4			
DIANTHUS	<i>chinensis x barbatus</i>	<b>Corona</b>	5	3-4	288	5	No	11	60/16	-	-	-	-	-	1	3	-	-			
DIGITALIS	<i>purpurea</i>	<b>Dalmatian</b>	5-9	52-1	128	7	Yes	12-13	60/16	-	-	-	-	-	-	1	1	2-3	-		
ECHINACEA	<i>hybrida</i>	<b>Cheyenne Spirit</b>	4-10	45-46	288 to 72+	13-15 weeks; SD from 2 to 7 true leaves	Yes	12	68/20	14-16	288 to 72+	Yes	11 weeks; SD from 2 to 7 true leaves	8-9	1	1	3	4			
ECHINACEA	<i>purpurea</i>	<b>PowWow</b>	4-10	45-46	288 to 72+	13-15 weeks; SD from 2 to 7 true leaves	Yes	12	68/20	14-16	288 to 72+	Yes	11 weeks; SD from 2 to 7 true leaves	8-9	1	1	3	4			
GAILLARDIA	<i>grandiflora</i>	<b>Mesa Bright Bicolor</b>	5-10	52-1	128	7	Yes	12	68/20	21	288	No	5	8-9	1	1	2	3			
GAILLARDIA	<i>grandiflora</i>	<b>Mesa Yellow</b>	5-10	52-1	128	7	Yes	12	68/20	19	288	No	5	10-11	1	1	2	3			
GAILLARDIA	<i>grandiflora</i>	<b>Mesa Peach</b>	5-10	52-1	128	7	Yes	12	68/20	-	-	-	-	-	1	1	2	3			
GAILLARDIA	<i>grandiflora</i>	<b>Mesa Red</b>	5-10	52-1	128	7	Yes	12	68/20	21	288	No	5	8-9	1	1	2	3			
GAURA	<i>lindheimeri</i>	<b>Sparkle White</b>	5b-9	2-3	128	8	Yes	8	68/20	22	288	No	4	7-8	1	1	3	4			
HEUCHERA	<i>micrantha</i>	<b>Palace Purple</b>	4-7	47-48	288	10-11	No	11-12	60/16	15-16	128	No	8	10-11	1	3	4	5			
HEUCHERA	<i>hybrida</i>	<b>Melting Fire</b>	5-8	46-47	288	10-11	No	13-14	60/16	12-14	128	No	9-11	12-13	1	3	4	5			
HIBISCUS	<i>moscheutos</i>	<b>Luna</b>	5-9	-	-	-	-	-	-	21	128	No	4	9-10	1	1	1	1			
LAVANDULA	<i>angustifolia</i>	<b>Avignon Early Blue</b>	6-8	46-47	288	7	No	12-14	55/10	20	128	No	6	9-10	1	3	4	5			
LAVANDULA	<i>angustifolia</i>	<b>Blue Spear</b>	6-8	-	-	-	-	-	-	18	128	No	6	11-12	1	3	4	5			
LAVANDULA	<i>angustifolia</i>	<b>Ellagance Purple &amp; Pink</b>	5-8	46-47	288	7	No	12-14	60/16 Needs high light in South regions	-	-	-	-	-	1	3	-	-			
LAVANDULA	<i>angustifolia</i>	<b>Lavance Deep Purple</b>	5-8	-	-	-	-	-	-	20	128	No	6	8-9	1	3	4	5			
LAVANDULA	<i>stoechas</i>	<b>Bandera</b>	7-10	46-47	288	7	No	12-14	60/16	-	-	-	-	-	1	2	-	-			
LOBELIA	<i>speciosa</i>	<b>Starship</b>	6-10	45-46	288 to 72+	13-15 weeks; 10-hour SD bulk to 10 leaves	Yes	11-12	68/20	14-16	288	Yes	9-10 weeks; 10-hour SD to 6 true leaves	10-11	1	1	3	4			
ORIGANUM	<i>hybrida</i>	<b>Kirigami</b>	5b-9	52-1	128	6-7	Yes	11-13	68/20	19-20	128	No	5	10-11	1	1	3	-			
PENSTEMON	<i>mexicali</i>	<b>Carillo</b>	5-7	52-1	128	7-8	Yes	10-11	65/18	-	-	-	-	-	1	2-3	3-5	-			
PEROVSKIA	<i>atriplicifolia</i>	<b>Blue Steel</b>	4-9	48-49	128	6-8	No	10-14	65/18 Needs low RH and high light in South regions	19-20	128	No	6-7	9-10	1	3	4	5			
RUDBECKIA	<i>fulgida</i>	<b>Goldsturm</b>	3-9	40-42	288 to 50+	15-16 weeks; SD from 2 to 10 true leaves	Yes	14-15	68/20	8-9	288 to 50+	Yes	14 weeks; SD from 2 to 10 true leaves	12-13	-	1	1	3			
SALVIA	<i>nemorosa</i>	<b>New Dimension</b>	4-8	1-2	128	7	Yes	10-11	65/18	-	-	-	-	-	1	3	5	-			
SALVIA	<i>patens</i>	<b>Patio</b>	8-10	1-2	128	7	Yes	10-11	65/18	-	-	-	-	-	1	3	5	-			
SCABIOSA	<i>columbaria</i>	<b>Blue Note</b>	5-9	49-51	128	8-9	No	12-14	60/16	-	-	-	-	-	1	3	-	-			
SCABIOSA	<i>japonica</i>	<b>Pink Diamonds</b>	5-9	49-51	128	8-9	No	12-14	60/16	-	-	-	-	-	1	3	-	-			
VERBENA	<i>bonariensis</i>	<b>Buenos Aires</b>	7-9	-	-	-	-	-	-	18-19	128	No	8	10-11	-	1	2	3			
VERBENA	<i>rigida</i>	<b>Santos Purple</b>	7-11	49-50	128	8	No	13-14	65/18 Needs high light in South regions	19-20	128	No	8	9-11	1	1	2	3			

SD = Short Day (12 hours or shorter, except Lobelia is 10 hours)  
LD = Long Day  
ADT = Average Daily Temperature

\* Schedule indicated is based on Midwest Region of the United States trial data and may change based on your local/regional climate. Please trial to re-confirm finish crop times before beginning commercial production.  
\*\* If yes, supplemental long day lighting should start after transplanting until visible bud or visible knot stage.



**ANNUALS** PROPAGATION GUIDE P. 6 / FINISHING GUIDE P. 44

**PERENNIALS** PROPAGATION GUIDE P. 82 / FINISHING GUIDE P. 96 / FORCING GUIDE P. 110

**CUT FLOWERS** PROPAGATION GUIDE P. 136 / FINISHING GUIDE P. 144

**HANDPICKED VEGETABLES & HERBS** PROPAGATION GUIDE P. 154 / FINISHING GUIDE P. 166

# pot plants

PanAmerican Seed®

CLASS/SERIES	SEED FORM	RECOMMENDED PLUG SIZE	PLUG CROP WEEKS	SEEDS/CELL	COVER SEED	DAYS TO GERMINATE	INITIAL MEDIA PH/EC	STAGE 1	STAGE 2	STAGE 3	STAGE 4	KEY TIPS
EXACUM <i>Exacum affine</i> <b>Princess Series</b>	PEL	288	5-6	1	No	4-5	5.2-5.6 pH 0.8-1.2 mmhos/cm	(m) Level 4 (t) 72-75°F (22-24°C) (l) Light (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-70°F (20-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 175 to 225 ppm N - 1.2 to 1.5 EC	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 175 to 225 ppm N - 1.2 to 1.5 EC	Water adequately to dissolve the pellet. To bench germ: Make sure trays are watered. Flat covering: first place one layer of reemay, then one layer of white plastic on top of that. Remove plastic after 7 to 8 days. Keep reemay wet. Remove reemay after another 1 to 2 days. PGRs are not necessary. Sticky traps for pests are recommended.
EXACUM <i>Exacum affine</i> <b>Royal Dane Series</b>	PEL	288	5-6	1	No	4-5	5.2-5.6 pH 0.8-1.2 mmhos/cm	(m) Level 4 (t) 72-75°F (22-24°C) (l) Light (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-70°F (20-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 175 to 225 ppm N - 1.2 to 1.5 EC	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 175 to 225 ppm N - 1.2 to 1.5 EC	Water adequately to dissolve the pellet. To bench germ: Make sure trays are watered. Flat covering: first place one layer of reemay, then one layer of white plastic on top of that. Remove plastic after 7 to 8 days. Keep reemay wet. Remove reemay after another 1 to 2 days. PGRs are not necessary. Sticky traps for pests are recommended.
EXACUM <i>Exacum affine</i> <b>Supreme</b>	PEL	288	5-6	1	No	4-5	5.2-5.6 pH 0.8-1.2 mmhos/cm	(m) Level 4 (t) 72-75°F (22-24°C) (l) Light (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-70°F (20-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 175 to 225 ppm N - 1.2 to 1.5 EC	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 225 to 300 ppm N - 1.5 to 2.0 EC	Water adequately to dissolve the pellet. To bench germ: Make sure trays are watered. Flat covering: first place one layer of reemay, then one layer of white plastic on top of that. Remove plastic after 7 to 8 days. Keep reemay wet. Remove reemay after another 1 to 2 days. PGRs are not necessary. Sticky traps for pests are recommended.
GERBERA <i>Gerbera jamesonii</i> <b>Mega Revolution Series</b>	COT	128	6-7	1	Light cover	4-7	5.5-5.8 pH 0.5-0.7 mmhos/cm	(m) Level 5 (t) 70-74°F (21-23°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 4 (t) 68-70°F (20-21°C) (l) 6-8 mol·m <sup>-2</sup> ·d <sup>-1</sup> , 2,000-2,500 f.c. (21,500-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3 (t) 68-70°F (20-21°C) (l) 6-8 mol·m <sup>-2</sup> ·d <sup>-1</sup> , 2,000-2,500 f.c. (21,500-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 3 (t) 66-68°F (19-20°C) (l) 6-8 mol·m <sup>-2</sup> ·d <sup>-1</sup> , 2,000-2,500 f.c. (21,500-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Don't water with cold water. Use water with a temperature at least 60°F/16°C or higher. Watering with cold water will give plants with deformed leaves and will disturb growth.  Do not pot too deeply when transplanting, 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.
GERBERA <i>Gerbera jamesonii</i> <b>Revolution F<sub>1</sub> Series</b>	COT	128	6-7	1	Light cover	4-7	5.5-5.8 pH 0.5-0.7 mmhos/cm	(m) Level 5 (t) 70-74°F (21-23°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 4 (t) 68-70°F (20-21°C) (l) 6-8 mol·m <sup>-2</sup> ·d <sup>-1</sup> , 2,000-2,500 f.c. (21,500-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3 (t) 68-70°F (20-21°C) (l) 6-8 mol·m <sup>-2</sup> ·d <sup>-1</sup> , 2,000-2,500 f.c. (21,500-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 3 (t) 66-68°F (19-20°C) (l) 6-8 mol·m <sup>-2</sup> ·d <sup>-1</sup> , 2,000-2,500 f.c. (21,500-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Don't water with cold water. Use water with a temperature at least 60°F/16°C or higher. Watering with cold water will give plants with deformed leaves and will disturb growth.  Do not pot too deeply when transplanting, 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.
HYPOESTES <i>Hypoestes phyllostachya</i> <b>Splash Select Series</b>	RAW	288	4-5	1	Yes	2-3	5.5-6.0 pH 0.5-0.75 mmhos/cm	(m) Level 4 (t) 70-75°F (21-24°C) (l) Optional	(m) Level 3-4 (t) 66-68°F (19-20°C) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3 (t) 66-68°F (19-20°C) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 3 (t) 66-68°F (19-20°C) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Too much light will cause leaves to curl. Grow under low light conditions (400 to 500 f.c./4,000 to 5,000 Lux).
LISIANTHUS <i>Eustoma grandiflorum</i> <b>Sapphire F<sub>1</sub> Series</b>	PEL	406	8-10	1	No	8-12	6.2-6.5 pH 0.75 mmhos/cm	(m) Level 4 (t) 68-72°F (20-22°C) (l) Light	(m) Level 2-3 (t) 68-72°F (20-22°C) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 1-3 (t) 65-68°F (18-20°C) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 1-3 (t) 62-65°F (17-18°C) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Maintain pH above 6.5. Do not allow plugs to become rootbound. Lisianthus are tender seedlings and are recommended as a plug-purchased item.
ORNAMENTAL PEPPER <i>Capsicum annuum</i> <b>Acapulco® Series</b>	RAW	288	4-5	1	No	5-6	5.4-5.8 pH 0.8-1.2 mmhos/cm	(m) Level 4 (t) 70-73°F (21-23°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-70°F (20-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) daminozide 2,000 ppm Spray	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 175 to 225 ppm N - 1.2 to 1.5 EC (p) daminozide 2,000 ppm Spray	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 175 to 225 ppm N - 1.2 to 1.5 EC	Apply daminozide 2,000 ppm spray 10 days after sowing, when cotyledons are fully expanded. Repeat 7 to 10 days later as needed. Alternatively for more vigorous varieties, use uniconazole 2.5 ppm spray 14 days after sowing, repeated 14 days later as needed. To bench germ: Make sure trays are watered before covering. Flat covering: first place one layer of reemay, then one layer of white plastic on top of that. Remove plastic after 8 to 10 days. Keep reemay wet. Remove reemay after another 2 to 3 days.

CLASS/SERIES	SEED FORM	RECOMMENDED PLUG SIZE	PLUG CROP WEEKS	SEEDS/ CELL	COVER SEED	DAYS TO GERMINATE	INITIAL MEDIA PH/EC	STAGE 1	STAGE 2	STAGE 3	STAGE 4	KEY TIPS
ORNAMENTAL PEPPER <i>Capsicum annuum</i> <b>Blaze</b>	RAW	288	4-5	1	Light cover	5-7	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 72-76°F (22-24°C) (l) Optional	(m) Level 3-4 (t) 68-73°F (20-23°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Performs best under high light and warm temperatures. If necessary, uniconazole (Sumagic) at rate of 2.5 ppm can be applied at 2 weeks after sowing for height control. Repeat 2 weeks later if needed.
ORNAMENTAL PEPPER <i>Capsicum annuum</i> <b>Chilly Chili F1</b>	RAW	288	4-5	1	Light cover	5-7	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 72-76°F (22-24°C) (l) Optional	(m) Level 3-4 (t) 68-73°F (20-23°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) uniconazole 2.5 ppm Spray	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Performs best under high light and warm temperatures. If necessary, uniconazole (Sumagic) at rate of 2.5 ppm can be applied at 2 weeks after sowing for height control. Repeat 2 weeks later if needed.
ORNAMENTAL PEPPER <i>Capsicum annuum</i> <b>Coba</b>	RAW	288	4-5	1	No	5-6	5.4-5.8 pH 0.8-1.2 mmhos/cm	(m) Level 4 (t) 70-73°F (21-23°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-70°F (20-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) daminozide 2,000 ppm Spray	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 175 to 225 ppm N - 1.2 to 1.5 EC (p) daminozide 2,000 ppm Spray	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 175 to 225 ppm N - 1.2 to 1.5 EC	Apply daminozide 2,000 ppm spray 10 days after sowing, when cotyledons are fully expanded. Repeat 7 to 10 days later as needed. Alternatively for more vigorous varieties, use uniconazole 2.5 ppm spray 14 days after sowing, repeated 14 days later as needed. To bench germ: Make sure trays are watered before covering. Flat covering: first place one layer of reemay, then one layer of white plastic on top of that. Remove plastic after 8 to 10 days. Keep reemay wet. Remove reemay after another 2 to 3 days.
ORNAMENTAL PEPPER <i>Capsicum annuum</i> <b>Cosmo</b>	RAW	288	3-4	1	No	5-6	5.4-5.8 pH 0.8-1.2 mmhos/cm	(m) Level 4 (t) 70-73°F (21-23°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-70°F (20-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 175 to 225 ppm N - 1.2 to 1.5 EC (p) uniconazole 2.5 ppm Spray	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 175 to 225 ppm N - 1.2 to 1.5 EC (p) uniconazole 2.5 ppm Spray	To ensure a uniform crop, growth regulator should be applied with a fine mist 10 to 12 days after sowing. An application of uniconazole 2.5 ppm will help control plant size. To bench germ: Make sure trays are watered before covering. Flat covering: first place one layer of reemay, then one layer of white plastic on top of that. Remove plastic after 8 to 10 days. Keep reemay wet. Remove reemay after another 2 to 3 days.
ORNAMENTAL PEPPER <i>Capsicum annuum</i> <b>Cupala</b>	RAW	288	4-5	1	No	5-6	5.4-5.8 pH 0.8-1.2 mmhos/cm	(m) Level 4 (t) 70-73°F (21-23°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-70°F (20-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 175 to 225 ppm N - 0.7 to 1.2 EC (p) daminozide 2,000 ppm Spray	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 175 to 225 ppm N - 1.2 to 1.5 EC (p) daminozide 2,000 ppm Spray	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 175 to 225 ppm N - 1.2 to 1.5 EC	Apply daminozide 2,000 ppm spray 10 days after sowing, when cotyledons are fully expanded. Repeat 7 to 10 days later as needed. Alternatively for more vigorous varieties, use uniconazole 2.5 ppm spray 14 days after sowing, repeated 14 days later as needed. To bench germ: Make sure trays are watered before covering. Flat covering: first place one layer of reemay, then one layer of white plastic on top of that. Remove plastic after 8 to 10 days. Keep reemay wet. Remove reemay after another 2 to 3 days.
ORNAMENTAL PEPPER <i>Capsicum annuum</i> <b>Fiesta</b>	RAW	288	3-4	1	No	5-6	5.4-5.8 pH 0.8-1.2 mmhos/cm	(m) Level 4 (t) 70-73°F (21-23°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-70°F (20-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 175 to 225 ppm N - 1.2 to 1.5 EC (p) uniconazole 2.5 ppm Spray	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 175 to 225 ppm N - 1.2 to 1.5 EC (p) uniconazole 2.5 ppm Spray	To ensure a uniform crop, growth regulator should be applied with a fine mist 10 to 12 days after sowing. An application of uniconazole 2.5 ppm will help control plant size. To bench germ: Make sure trays are watered before covering. Flat covering: first place one layer of reemay, then one layer of white plastic on top of that. Remove plastic after 8 to 10 days. Keep reemay wet. Remove reemay after another 2 to 3 days.
ORNAMENTAL PEPPER <i>Capsicum annuum</i> <b>Golden Cayenne</b>	RAW	288	3-4	1	No	5-6	5.4-5.8 pH 0.8-1.2 mmhos/cm	(m) Level 4 (t) 70-73°F (21-23°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-70°F (20-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 175 to 225 ppm N - 1.2 to 1.5 EC (p) uniconazole 2.5 ppm Spray	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 175 to 225 ppm N - 1.2 to 1.5 EC (p) uniconazole 2.5 ppm Spray	To ensure a uniform crop, growth regulator should be applied with a fine mist. For more vigorous varieties, an application of uniconazole 2.5 ppm at 10 to 12 days after sowing, repeated 2 weeks later if needed, will help control plant size. To bench germ: Make sure trays are watered before covering. Flat covering: first place one layer of reemay, then one layer of white plastic on top of that. Remove plastic after 8 to 10 days. Keep reemay wet. Remove reemay after another 2 to 3 days.

CLASS/SERIES	SEED FORM	RECOMMENDED PLUG SIZE	PLUG CROP WEEKS	SEEDS/CELL	COVER SEED	DAYS TO GERMINATE	INITIAL MEDIA PH/EC	STAGE 1	STAGE 2	STAGE 3	STAGE 4	KEY TIPS
ORNAMENTAL PEPPER <i>Ornamental Pepper</i> <b>Habanero</b>	RAW	288	3-4	1	No	5-6	5.4-5.8 pH 0.8-1.2 mmhos/cm	(m) Level 4 (t) 70-73°F (21-23°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-70°F (20-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 175 to 225 ppm N - 1.2 to 1.5 EC (p) uniconazole 2.5 ppm Spray	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 175 to 225 ppm N - 1.2 to 1.5 EC (p) uniconazole 2.5 ppm Spray	To ensure a uniform crop, growth regulator should be applied with a fine mist. For more vigorous varieties, an application of uniconazole 2.5 ppm at 10 to 12 days after sowing, repeated 2 weeks later if needed, will help control plant size. To bench germ: Make sure trays are watered before covering. Flat covering: first place one layer of reemay, then one layer of white plastic on top of that. Remove plastic after 8 to 10 days. Keep reemay wet. Remove reemay after another 2 to 3 days.
ORNAMENTAL PEPPER <i>Capsicum annuum</i> <b>Harlequin</b>	RAW	288	4-5	1	No	5-6	5.4-5.8 pH 0.8-1.2 mmhos/cm	(m) Level 4 (t) 70-73°F (21-23°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-70°F (20-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) daminozide 2,000 ppm Spray	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 1,000-25,000 f.c. (10,800-269,100 Lux) (f) 175 to 225 ppm N - 1.2 to 1.5 EC (p) daminozide 2,000 ppm Spray	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 175 to 225 ppm N - 1.2 to 1.5 EC	Apply daminozide 2,000 ppm spray 10 days after sowing, when cotyledons are fully expanded. Repeat 7 to 10 days later as needed. Alternatively for more vigorous varieties, use uniconazole 2.5 ppm spray 14 days after sowing, repeated 14 days later as needed. To bench germ: Make sure trays are watered before covering. Flat covering: first place one layer of reemay, then one layer of white plastic on top of that. Remove plastic after 8 to 10 days. Keep reemay wet. Remove reemay after another 2 to 3 days.
ORNAMENTAL PEPPER <i>Capsicum annuum</i> <b>Hot Banana</b>	RAW	288	3-4	1	No	5-6	5.4-5.8 pH 0.8-1.2 mmhos/cm	(m) Level 4 (t) 70-73°F (21-23°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-70°F (20-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 175 to 225 ppm N - 1.2 to 1.5 EC (p) uniconazole 2.5 ppm Spray	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 175 to 225 ppm N - 1.2 to 1.5 EC (p) uniconazole 2.5 ppm Spray	To ensure a uniform crop, growth regulator should be applied with a fine mist. For more vigorous varieties, an application of uniconazole 2.5 ppm at 10 to 12 days after sowing, repeated 2 weeks later if needed, will help control plant size. To bench germ: Make sure trays are watered before covering. Flat covering: first place one layer of reemay, then one layer of white plastic on top of that. Remove plastic after 8 to 10 days. Keep reemay wet. Remove reemay after another 2 to 3 days.
ORNAMENTAL PEPPER <i>Capsicum annuum</i> <b>Hot Burrito</b>	RAW	288	3-4	1	No	5-6	5.4-5.8 pH 0.8-1.2 mmhos/cm	(m) Level 4 (t) 70-73°F (21-23°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-70°F (20-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 175 to 225 ppm N - 1.2 to 1.5 EC (p) uniconazole 2.5 ppm Spray	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 175 to 225 ppm N - 1.2 to 1.5 EC (p) uniconazole 2.5 ppm Spray	To ensure a uniform crop, growth regulator should be applied with a fine mist. For more vigorous varieties, an application of uniconazole 2.5 ppm at 10 to 12 days after sowing, repeated 2 weeks later if needed, will help control plant size. To bench germ: Make sure trays are watered before covering. Flat covering: first place one layer of reemay, then one layer of white plastic on top of that. Remove plastic after 8 to 10 days. Keep reemay wet. Remove reemay after another 2 to 3 days.
ORNAMENTAL PEPPER <i>Capsicum annuum</i> <b>Hot Carrot</b>	RAW	288	3-4	1	No	5-6	5.4-5.8 pH 0.8-1.2 mmhos/cm	(m) Level 4 (t) 70-73°F (21-23°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-70°F (20-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 175 to 225 ppm N - 1.2 to 1.5 EC (p) uniconazole 2.5 ppm Spray	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 175 to 225 ppm N - 1.2 to 1.5 EC (p) uniconazole 2.5 ppm Spray	To ensure a uniform crop, growth regulator should be applied with a fine mist. For more vigorous varieties, an application of uniconazole 2.5 ppm at 10 to 12 days after sowing, repeated 2 weeks later if needed, will help control plant size. To bench germ: Make sure trays are watered before covering. Flat covering: first place one layer of reemay, then one layer of white plastic on top of that. Remove plastic after 8 to 10 days. Keep reemay wet. Remove reemay after another 2 to 3 days.
ORNAMENTAL PEPPER <i>Capsicum annuum</i> <b>Hot Fajita</b>	RAW	288	3-4	1	No	5-6	5.4-5.8 pH 0.8-1.2 mmhos/cm	(m) Level 4 (t) 70-73°F (21-23°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-70°F (20-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 175 to 225 ppm N - 1.2 to 1.5 EC (p) uniconazole 2.5 ppm Spray	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 175 to 225 ppm N - 1.2 to 1.5 EC (p) uniconazole 2.5 ppm Spray	To ensure a uniform crop, growth regulator should be applied with a fine mist. For more vigorous varieties, an application of uniconazole 2.5 ppm at 10 to 12 days after sowing, repeated 2 weeks later if needed, will help control plant size. To bench germ: Make sure trays are watered before covering. Flat covering: first place one layer of reemay, then one layer of white plastic on top of that. Remove plastic after 8 to 10 days. Keep reemay wet. Remove reemay after another 2 to 3 days.

CLASS/SERIES	SEED FORM	RECOMMENDED PLUG SIZE	PLUG CROP WEEKS	SEEDS/CELL	COVER SEED	DAYS TO GERMINATE	INITIAL MEDIA PH/EC	STAGE 1	STAGE 2	STAGE 3	STAGE 4	KEY TIPS
ORNAMENTAL PEPPER <i>Capsicum annuum</i> <b>Hot Joker</b>	RAW	288	3-4	1	No	5-6	5.4-5.8 pH 0.8-1.2 mmhos/cm	(m) Level 4 (t) 70-73°F (21-23°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-70°F (20-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 175 to 225 ppm N - 1.2 to 1.5 EC (p) uniconazole 2.5 ppm Spray	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 175 to 225 ppm N - 1.2 to 1.5 EC (p) uniconazole 2.5 ppm Spray	To ensure a uniform crop, growth regulator should be applied with a fine mist. For more vigorous varieties, an application of uniconazole 2.5 ppm at 10 to 12 days after sowing, repeated 2 weeks later if needed, will help control plant size. To bench germ: Make sure trays are watered before covering. Flat covering: first place one layer of reemay, then one layer of white plastic on top of that. Remove plastic after 8 to 10 days. Keep reemay wet. Remove reemay after another 2 to 3 days.
ORNAMENTAL PEPPER <i>Capsicum annuum</i> <b>Hot Lemon</b>	RAW	288	3-4	1	No	5-6	5.4-5.8 pH 0.8-1.2 mmhos/cm	(m) Level 4 (t) 70-73°F (21-23°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-70°F (20-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 175 to 225 ppm N - 1.2 to 1.5 EC (p) uniconazole 2.5 ppm Spray	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 175 to 225 ppm N - 1.2 to 1.5 EC (p) uniconazole 2.5 ppm Spray	To ensure a uniform crop, growth regulator should be applied with a fine mist. For more vigorous varieties, an application of uniconazole 2.5 ppm at 10 to 12 days after sowing, repeated 2 weeks later if needed, will help control plant size. To bench germ: Make sure trays are watered before covering. Flat covering: first place one layer of reemay, then one layer of white plastic on top of that. Remove plastic after 8 to 10 days. Keep reemay wet. Remove reemay after another 2 to 3 days.
ORNAMENTAL PEPPER <i>Capsicum annuum</i> <b>Hot Pops Series</b>	RAW	288	4-5	1	Light cover	5-7	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 72-76°F (22-24°C) (l) Optional	(m) Level 3-4 (t) 68-73°F (20-23°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) uniconazole 25 ppm Spray	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Performs best under high light and warm temperatures. Hot Pops Ornamental Peppers are naturally compact and should not need PGRs. If necessary, uniconazole (Sumagic) at rate of 2.5 ppm can be applied at 2 weeks after sowing for height control. Repeat 2 weeks later if needed.
ORNAMENTAL PEPPER <i>Capsicum annuum</i> <b>Hot Tomato</b>	RAW	288	3-4	1	No	5-6	5.4-5.8 pH 0.8-1.2 mmhos/cm	(m) Level 4 (t) 70-73°F (21-23°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-70°F (20-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 175 to 225 ppm N - 1.2 to 1.5 EC (p) uniconazole 2.5 ppm Spray	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 175 to 225 ppm N - 1.2 to 1.5 EC (p) uniconazole 2.5 ppm Spray	To ensure a uniform crop, growth regulator should be applied with a fine mist. For more vigorous varieties, an application of uniconazole 2.5 ppm at 10 to 12 days after sowing, repeated 2 weeks later if needed, will help control plant size. To bench germ: Make sure trays are watered before covering. Flat covering: first place one layer of reemay, then one layer of white plastic on top of that. Remove plastic after 8 to 10 days. Keep reemay wet. Remove reemay after another 2 to 3 days.
ORNAMENTAL PEPPER <i>Capsicum annuum</i> <b>Jalapeño</b>	RAW	288	3-4	1	No	5-6	5.4-5.8 pH 0.8-1.2 mmhos/cm	(m) Level 4 (t) 70-73°F (21-23°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-70°F (20-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 175 to 225 ppm N - 1.2 to 1.5 EC (p) uniconazole 2.5 ppm Spray	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 175 to 225 ppm N - 1.2 to 1.5 EC (p) uniconazole 2.5 ppm Spray	To ensure a uniform crop, growth regulator should be applied with a fine mist. For more vigorous varieties, an application of uniconazole 2.5 ppm at 10 to 12 days after sowing, repeated 2 weeks later if needed, will help control plant size. To bench germ: Make sure trays are watered before covering. Flat covering: first place one layer of reemay, then one layer of white plastic on top of that. Remove plastic after 8 to 10 days. Keep reemay wet. Remove reemay after another 2 to 3 days.
ORNAMENTAL PEPPER <i>Capsicum annuum</i> <b>Joker</b>	RAW	288	4-5	1	No	5-6	5.4-5.8 pH 0.8-1.2 mmhos/cm	(m) Level 4 (t) 70-73°F (21-23°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-70°F (20-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) daminozide 2,000 ppm Spray	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 175 to 225 ppm N - 1.2 to 1.5 EC (p) daminozide 2,000 ppm Spray	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 175 to 225 ppm N - 1.2 to 1.5 EC	Apply daminozide 2,000 ppm spray 10 days after sowing, when cotyledons are fully expanded. Repeat 7 to 10 days later as needed. Alternatively for more vigorous varieties, use uniconazole 2.5 ppm spray 14 days after sowing, repeated 14 days later as needed. To bench germ: Make sure trays are watered before covering. Flat covering: first place one layer of reemay, then one layer of white plastic on top of that. Remove plastic after 8 to 10 days. Keep reemay wet. Remove reemay after another 2 to 3 days.

CLASS/SERIES	SEED FORM	RECOMMENDED PLUG SIZE	PLUG CROP WEEKS	SEEDS/CELL	COVER SEED	DAYS TO GERMINATE	INITIAL MEDIA PH/EC	STAGE 1	STAGE 2	STAGE 3	STAGE 4	KEY TIPS
ORNAMENTAL PEPPER <i>Capsicum annuum</i> <b>Macho</b>	RAW	288	3-4	1	No	5-6	5.4-5.8 pH 0.8-1.2 mmhos/cm	(m) Level 4 (t) 70-73°F (21-23°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-70°F (20-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 175 to 225 ppm N - 1.2 to 1.5 EC (p) uniconazole 2.5 ppm Spray	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 175 to 225 ppm N - 1.2 to 1.5 EC	Although Macho is a naturally compact variety, plugs will be stronger if growth regulator is used. To bench germ: Make sure trays are watered before covering. Flat covering: first place one layer of reemay, then one layer of white plastic on top of that. Remove plastic after 8 to 10 days. Keep reemay wet. Remove reemay after another 2 to 3 days.
ORNAMENTAL PEPPER <i>Capsicum annuum</i> <b>Masquerade</b>	RAW	288	4-5	1	Light cover	5-7	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 72-76°F (22-24°C) (l) Optional	(m) Level 3-4 (t) 68-73°F (20-23°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) uniconazole 2.5 ppm Spray	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Performs best under high light and warm temperatures. If necessary, uniconazole (Sumagic) at rate of 2.5 ppm can be applied at 2 weeks after sowing for height control. Repeat 2 weeks later if needed.
ORNAMENTAL PEPPER <i>Capsicum annuum</i> <b>Medusa</b>	RAW	288	4-5	1	Light cover	5-7	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 72-76°F (22-24°C) (l) Optional	(m) Level 3-4 (t) 68-73°F (20-23°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Performs best under high light and warm temperatures. Medusa is naturally compact and should not need PGRs. If necessary, uniconazole (Sumagic) at rate of 2.5 ppm can be applied at 2 weeks after sowing for height control. Repeat 2 weeks later if needed.
ORNAMENTAL PEPPER <i>Capsicum annuum</i> <b>Paracho</b>	RAW	288	4-5	1	No	5-6	5.4-5.8 pH 0.8-1.2 mmhos/cm	(m) Level 4 (t) 70-73°F (21-23°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-70°F (20-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) daminozide 2,000 ppm Spray	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 175 to 225 ppm N - 1.2 to 1.5 EC (p) daminozide 2,000 ppm Spray	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 175 to 225 ppm N - 1.2 to 1.5 EC	Apply daminozide 2,000 ppm spray 10 days after sowing, when cotyledons are fully expanded. Repeat 7 to 10 days later as needed. Alternatively for more vigorous varieties, use uniconazole 2.5 ppm spray 14 days after sowing, repeated 14 days later as needed. To bench germ: Make sure trays are watered before covering. Flat covering: first place one layer of reemay, then one layer of white plastic on top of that. Remove plastic after 8 to 10 days. Keep reemay wet. Remove reemay after another 2 to 3 days.
ORNAMENTAL PEPPER <i>Capsicum annuum</i> <b>Red Bell</b>	RAW	288	3-4	1	No	5-6	5.4-5.8 pH 0.8-1.2 mmhos/cm	(m) Level 4 (t) 70-73°F (21-23°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-70°F (20-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 175 to 225 ppm N - 1.2 to 1.5 EC (p) uniconazole 2.5 ppm Spray	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 175 to 225 ppm N - 1.2 to 1.5 EC (p) uniconazole 2.5 ppm Spray	To ensure a uniform crop, growth regulator should be applied with a fine mist. For more vigorous varieties, an application of uniconazole 2.5 ppm at 10 to 12 days after sowing, repeated 2 weeks later if needed, will help control plant size. To bench germ: Make sure trays are watered before covering. Flat covering: first place one layer of reemay, then one layer of white plastic on top of that. Remove plastic after 8 to 10 days. Keep reemay wet. Remove reemay after another 2 to 3 days.
ORNAMENTAL PEPPER <i>Capsicum annuum</i> <b>Red Missile</b>	RAW	288	4-5	1	Light cover	5-7	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 72-76°F (22-24°C) (l) Optional	(m) Level 3-4 (t) 68-73°F (20-23°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) uniconazole 2.5 ppm Spray	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Performs best under high light and warm temperatures. If necessary, uniconazole (Sumagic) at rate of 2.5 ppm can be applied at 2 weeks after sowing for height control. Repeat 2 weeks later if needed.
ORNAMENTAL PEPPER <i>Capsicum annuum</i> <b>Salsa Series</b>	RAW	288	4-5	1	No	5-6	5.4-5.8 pH 0.8-1.2 mmhos/cm	(m) Level 4 (t) 70-73°F (21-23°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-70°F (20-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) daminozide/ancymidol tank mix 2,000 ppm Spray	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 175 to 225 ppm N - 1.2 to 1.5 EC (p) daminozide 2,000 ppm Spray	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 175 to 225 ppm N - 1.2 to 1.5 EC	Apply daminozide 2,000 ppm spray 10 days after sowing, when cotyledons are fully expanded. Repeat 7 to 10 days later as needed. Alternatively for more vigorous varieties, use uniconazole 2.5 ppm spray 14 days after sowing, repeated 14 days later as needed. To bench germ: Make sure trays are watered before covering. Flat covering: first place one layer of reemay, then one layer of white plastic on top of that. Remove plastic after 8 to 10 days. Keep reemay wet. Remove reemay after another 2 to 3 days.



CLASS/SERIES	SEED FORM	RECOMMENDED PLUG SIZE	PLUG CROP WEEKS	SEEDS/CELL	COVER SEED	DAYS TO GERMINATE	INITIAL MEDIA PH/EC	STAGE 1	STAGE 2	STAGE 3	STAGE 4	KEY TIPS
ORNAMENTAL PEPPER <i>Capsicum annuum</i> <b>Samba Series</b>	RAW	288	4-5	1	No	5-6	5.4-5.8 pH 0.8-1.2 mmhos/cm	(m) Level 4 (t) 70-73°F (21-23°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-70°F (20-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) daminozide 2,000 ppm Spray	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 175 to 225 ppm N - 1.2 to 1.5 EC (p) daminozide 2,000 ppm Spray	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 175 to 225 ppm N - 1.2 to 1.5 EC	Apply daminozide 2,000 ppm spray 10 days after sowing, when cotyledons are fully expanded. Repeat 7 to 10 days later as needed. Alternatively for more vigorous varieties, use uniconazole 2.5 ppm spray 14 days after sowing, repeated 14 days later as needed. To bench germ: Make sure trays are watered before covering. Flat covering: first place one layer of reemay, then one layer of white plastic on top of that. Remove plastic after 8 to 10 days. Keep reemay wet. Remove reemay after another 2 to 3 days.
ORNAMENTAL PEPPER <i>Capsicum annuum</i> <b>Samba XL Series</b>	RAW	288	4-5	1	No	5-6	5.4-5.8 pH 0.8-1.2 mmhos/cm	(m) Level 4 (t) 70-73°F (21-23°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-70°F (20-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) daminozide 2,000 ppm Spray	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 175 to 225 ppm N - 1.2 to 1.5 EC (p) daminozide 2,000 ppm Spray	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 175 to 225 ppm N - 1.2 to 1.5 EC	Apply daminozide 2,000 ppm spray 10 days after sowing, when cotyledons are fully expanded. Repeat 7 to 10 days later as needed. Alternatively for more vigorous varieties, use uniconazole 2.5 ppm spray 14 days after sowing, repeated 14 days later as needed. To bench germ: Make sure trays are watered before covering. Flat covering: first place one layer of reemay, then one layer of white plastic on top of that. Remove plastic after 8 to 10 days. Keep reemay wet. Remove reemay after another 2 to 3 days.
ORNAMENTAL PEPPER <i>Capsicum annuum</i> <b>Santos Series</b>	RAW	288	4-5	1	No	5-6	5.4-5.8 pH 0.8-1.2 mmhos/cm	(m) Level 4 (t) 70-73°F (21-23°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-70°F (20-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) daminozide 2,000 ppm Spray	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 175 to 225 ppm N - 1.2 to 1.5 EC (p) daminozide 2,000 ppm Spray	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 175 to 225 ppm N - 1.2 to 1.5 EC	Apply daminozide 2,000 ppm spray 10 days after sowing, when cotyledons are fully expanded. Repeat 7 to 10 days later as needed. Alternatively for more vigorous varieties, use uniconazole 2.5 ppm spray 14 days after sowing, repeated 14 days later as needed. To bench germ: Make sure trays are watered before covering. Flat covering: first place one layer of reemay, then one layer of white plastic on top of that. Remove plastic after 8 to 10 days. Keep reemay wet. Remove reemay after another 2 to 3 days.
ORNAMENTAL PEPPER <i>Capsicum annuum</i> <b>Snack Series</b>	RAW	288	3-4	1	No	4-5	5.4-5.8 pH 0.8-1.2 mmhos/cm	(m) Level 4 (t) 70-73°F (21-23°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-70°F (20-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 175 to 225 ppm N - 1.2 to 1.5 EC (p) uniconazole 2.5 ppm Spray	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 175 to 225 ppm N - 1.2 to 1.5 EC (p) uniconazole 2.5 ppm Spray	To ensure a uniform crop, growth regulator should be applied with a fine mist. For more vigorous varieties, an application of uniconazole 2.5 ppm at 10 to 12 days after sowing, repeated 2 weeks later if needed, will help control plant size. To bench germ: Make sure trays are watered before covering. Flat covering: first place one layer of reemay, then one layer of white plastic on top of that. Remove plastic after 8 to 10 days. Keep reemay wet. Remove reemay after another 2 to 3 days.
ORNAMENTAL PEPPER <i>Capsicum annuum</i> <b>Snack Supreme</b>	RAW	288	3-4	1	No	4-5	5.4-5.8 pH 0.8-1.2 mmhos/cm	(m) Level 4 (t) 70-73°F (21-23°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-70°F (20-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 175 to 225 ppm N - 1.2 to 1.5 EC (p) uniconazole 2.5 ppm Spray	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 175 to 225 ppm N - 1.2 to 1.5 EC (p) uniconazole 2.5 ppm Spray	To ensure a uniform crop, growth regulator should be applied with a fine mist. For more vigorous varieties, an application of uniconazole 2.5 ppm at 10 to 12 days after sowing, repeated 2 weeks later if needed, will help control plant size. To bench germ: Make sure trays are watered before covering. Flat covering: first place one layer of reemay, then one layer of white plastic on top of that. Remove plastic after 8 to 10 days. Keep reemay wet. Remove reemay after another 2 to 3 days.
ORNAMENTAL PEPPER <i>Capsicum annuum</i> <b>Torito</b>	RAW	288	3-4	1	No	5-6	5.4-5.8 pH 0.8-1.2 mmhos/cm	(m) Level 4 (t) 70-73°F (21-23°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-70°F (20-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 175 to 225 ppm N - 1.2 to 1.5 EC (p) uniconazole 2.5 ppm Spray	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 175 to 225 ppm N - 1.2 to 1.5 EC (p) uniconazole 2.5 ppm Spray	To ensure a uniform crop, growth regulator should be applied with a fine mist. For more vigorous varieties, an application of uniconazole 2.5 ppm at 10 to 12 days after sowing, repeated 2 weeks later if needed, will help control plant size. To bench germ: Make sure trays are watered before covering. Flat covering: first place one layer of reemay, then one layer of white plastic on top of that. Remove plastic after 8 to 10 days. Keep reemay wet. Remove reemay after another 2 to 3 days.

CLASS/SERIES	SEED FORM	RECOMMENDED PLUG SIZE	PLUG CROP WEEKS	SEEDS/CELL	COVER SEED	DAYS TO GERMINATE	INITIAL MEDIA PH/EC	STAGE 1	STAGE 2	STAGE 3	STAGE 4	KEY TIPS
ORNAMENTAL PEPPER <i>Capsicum annuum</i> <b>Wicked</b>	RAW	288	4-5	1	Light cover	5-7	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 72-76°F (22-24°C) (l) Optional	(m) Level 3-4 (t) 68-73°F (20-23°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) uniconazole 25 ppm Spray	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Performs best under high light and warm temperatures. Wicked is naturally compact and should not need PGRs. If necessary, uniconazole (Sumagic) at rate of 2.5 ppm can be applied at 2 weeks after sowing for height control. Repeat 2 weeks later if needed.
ORNAMENTAL PEPPER <i>Capsicum annuum</i> <b>Yellow Tomato</b>	RAW	288	3-4	1	No	5-6	5.4-5.8 pH 0.8-1.2 mmhos/cm	(m) Level 4 (t) 70-73°F (21-23°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-70°F (20-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 175 to 225 ppm N - 1.2 to 1.5 EC (p) uniconazole 2.5 ppm Spray	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 175 to 225 ppm N - 1.2 to 1.5 EC (p) uniconazole 2.5 ppm Spray	To ensure a uniform crop, growth regulator should be applied with a fine mist. For more vigorous varieties, an application of uniconazole 2.5 ppm at 10 to 12 days after sowing, repeated 2 weeks later if needed, will help control plant size. To bench germ: Make sure trays are watered before covering. Flat covering: first place one layer of reemay, then one layer of white plastic on top of that. Remove plastic after 8 to 10 days. Keep reemay wet. Remove reemay after another 2 to 3 days.
ORNAMENTAL PEPPER <i>Capsicum annuum</i> <b>Zamora Series</b>	RAW	288	4-5	1	No	5-6	5.4-5.8 pH 0.8-1.2 mmhos/cm	(m) Level 4 (t) 70-73°F (21-23°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-70°F (20-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) daminozide 2,000 ppm Spray	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 175 to 225 ppm N - 1.2 to 1.5 EC (p) daminozide 2,000 ppm Spray	(m) Level 2-4 (t) 68-70°F (20-21°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 175 to 225 ppm N - 1.2 to 1.5 EC	Apply daminozide 2,000 ppm spray 10 days after sowing, when cotyledons are fully expanded. Repeat 7 to 10 days later as needed. Alternatively for more vigorous varieties, use uniconazole 2.5 ppm spray 14 days after sowing, repeated 14 days later as needed. To bench germ: Make sure trays are watered before covering. Flat covering: first place one layer of reemay, then one layer of white plastic on top of that. Remove plastic after 8 to 10 days. Keep reemay wet. Remove reemay after another 2 to 3 days.
SUNFLOWER <i>Helianthus annuus</i> <b>Ballad F<sub>1</sub></b>	TRT	288	2-3	1	Yes	3-5	5.5-6.0 pH 0.75 mmhos/cm	(m) Level 4 (t) 68-72°F (20-22°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2 (t) 64-72°F (18-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2 (t) 61-72°F (16-22°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Can also be propagated by direct sowing when grown in smaller pots (4-in./10 cm, 4.5-in./11-cm, 5-in./13-cm).
SUNFLOWER <i>Helianthus annuus</i> <b>Choco Sun</b>	TRT	288	2-3	1	Yes	3-5	5.5-6.0 pH 0.75 mmhos/cm	(m) Level 4 (t) 68-72°F (20-22°C) (l) Optional	(m) Level 3-4 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2 (t) 64-72°F (18-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2 (t) 61-72°F (16-22°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Can also be propagated by direct sowing when grown in smaller pots (4-in./10 cm, 4.5-in./11-cm, 5-in./13-cm).
SUNFLOWER <i>Helianthus annuus</i> <b>Miss Sunshine F<sub>1</sub></b>	TRT	288	2-3	1	Yes	3-5	5.5-6.0 pH 0.75 mmhos/cm	(m) Level 4 (t) 68-72°F (20-22°C) (l) Optional	(m) Level 3-4 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3 (t) 64-72°F (18-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2 (t) 61-72°F (16-22°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Can also be propagated by direct sowing when grown in smaller pots (4-in./10 cm, 4.5-in./11-cm, 5-in./13-cm).
SUNFLOWER <i>Helianthus annuus</i> <b>SunBuzz F<sub>1</sub></b>	TRT	288		1	Yes	3-5	5.5-6.0 pH 0.75 mmhos/cm	(m) Level 4 (t) 68-72°F (20-22°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2 (t) 64-72°F (18-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2 (t) 61-72°F (16-22°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Can also grown by direct sowing in smaller pots (quart, 5-in./13-cm).

CLASS/SERIES	RECOMMENDED PLUG SIZE	GROWING ON TEMPERATURE (DAYS/NIGHTS)	TARGET MEDIA PH/EC	DAYLENGTH	FINISHING PROGRAMS	KEY TIPS
EXACUM <i>Exacum affine</i> <b>Princess Series</b>	288	(day) 70-75°F (21-24°C) (night) 66-70°F (19-21°C)	5.4-5.8 pH 1.5-2.0 mmhos/cm	Facultative Long Day When light levels are low, use supplemental lighting.	4"/4.5"/Quart, 1 (ppp), 12 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 10 (weeks), Summer	Irrigation from below is recommended. Space when plants begin to touch. Grow on the "dry side" for better compact habit. Humidity must not exceed 80%, to reduce risk of fungal disease. PGR is recommended during the finish. Sprays must begin 3 weeks after potting (small pots, one week after potting). The subsequent treatments are dependent upon growing conditions and the desired size of the plant. Paclobutrazol and flurprimidol have been found to be effective on Exacum.
EXACUM <i>Exacum affine</i> <b>Royal Dane Series</b>	288	(day) 70-75°F (21-24°C) (night) 66-70°F (19-21°C)	5.4-5.8 pH 1.5-2.0 mmhos/cm	Facultative Long Day When light levels are low, use supplemental lighting.	4"/4.5"/Quart, 1 (ppp), 12 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 10 (weeks), Summer	Irrigation from below is recommended. Space when plants begin to touch. Grow on the "dry side" for better compact habit. Humidity must not exceed 80%, to reduce risk of fungal disease. PGR is recommended during the finish. Sprays must begin 3 weeks after potting (small pots, one week after potting). The subsequent treatments are dependent upon growing conditions and the desired size of the plant. Paclobutrazol and flurprimidol have been found to be effective on Exacum.
EXACUM <i>Exacum affine</i> <b>Supreme</b>	288	(day) 70-75°F (21-24°C) (night) 66-70°F (19-21°C)	5.4-5.8 pH 1.5-2.0 mmhos/cm	Facultative Long Day When light levels are low, use supplemental lighting.	5"/6"/1 Gallon, 1 (ppp), 13 (weeks), Spring 5"/6"/1 Gallon, 1 (ppp), 11 (weeks), Summer	Irrigation from below is recommended. Space when plants begin to touch. Grow on the "dry side" for better compact habit. Humidity must not exceed 80%, to reduce risk of fungal disease. Supreme requires less PGR than other Exacum affine. PGR may be needed during the finish depending on conditions. Sprays can begin 3 weeks after potting (small pots, one week after potting). The subsequent treatments are dependent upon growing conditions and the desired size of the plant. Paclobutrazol and flurprimidol have been found to be effective on Exacum.
GERBERA <i>Gerbera jamesonii</i> <b>Mega Revolution Series</b>	128	(day) 66-68°F (19-20°C) (night) 62-66°F (17-19°C)	5.5-6.0 pH 0.5-1.0 mmhos/cm	Facultative Short Day	5"/6"/1 Gallon, 1 (ppp), 10-11 (weeks), Spring, PGR daminozide 1,000-2,500 ppm Spray 5"/6"/1 Gallon, 1 (ppp), 8-9 (weeks), Summer, PGR daminozide 1,000-2,500 ppm Spray 5"/6"/1 Gallon, 1 (ppp), 10-11 (weeks), Autumn, PGR daminozide 1,000-2,500 ppm Spray 5"/6"/1 Gallon, 1 (ppp), 11-12 (weeks), Autumn, PGR daminozide 1,000-2,500 ppm Spray	Use 6-in. (15 cm) pots or larger. Fill pots 100% with a uniform soil level. When transplanting, do not pot too deep, as this may result in Crown Rot. Space plants when leaves are touching, generally 5 to 6 weeks after transplanting. To reduce stretching, use B-Nine/Alar (daminozide) at 1,000 to 2,500 ppm 1 to 2 times with an interval of 9 to 10 days. Don't use this anymore after seeing the first flower buds.
GERBERA <i>Gerbera jamesonii</i> <b>Revolution F<sub>1</sub> Series</b>	128	(day) 66-68°F (19-20°C) (night) 62-66°F (17-19°C)	5.5-6.0 pH 0.5-1.0 mmhos/cm	Facultative Short Day	5"/6"/1 Gallon, 1 (ppp), 9-10 (weeks), Spring, PGR daminozide 1,000-2,500 ppm Spray 5"/6"/1 Gallon, 1 (ppp), 7-8 (weeks), Summer, PGR daminozide 1,000-2,500 ppm Spray 5"/6"/1 Gallon, 1 (ppp), 9-10 (weeks), Autumn, PGR daminozide 1,000-2,500 ppm Spray 5"/6"/1 Gallon, 1 (ppp), 10-11 (weeks), Winter, PGR daminozide 1,000-2,500 ppm Spray	Use 4.5 to 5.5-in. (11 to 14-cm) pots for standard Revolution. Fill pots 100% with a uniform soil level. When transplanting, do not pot too deep, as this may result in Crown Rot. Space plants when leaves are touching, generally 5 to 6 weeks after transplanting. To reduce stretching, use B-Nine/Alar (daminozide) at 1,000 to 2,500 ppm 1 to 2 times with an interval of 9 to 10 days. Don't use this anymore after seeing the first flower buds.
HYPOESTES <i>Hypoestes phyllostachya</i> <b>Splash Select Series</b>	288	(day) 65-75°F (18-24°C) (night) 62-65°F (17-18°C)	5.5-6.0 pH 1.0-1.5 mmhos/cm		Cell Pack, 1 (ppp), 5-6 (weeks), Spring, PGR daminozide/chlormequat chloride tank mix 1,000/500 ppm Spray 4"/4.5"/Quart, 3-4 (ppp), 5-6 (weeks), Spring, PGR daminozide/chlormequat chloride tank mix 1,000/500 ppm Spray	Too much light will cause leaves to curl. Grow under low light conditions (400 to 500 f.c./4,000 to 5,000 Lux).
LISIANTHUS <i>Eustoma grandiflorum</i> <b>Sapphire F<sub>1</sub> Series</b>	406	(day) 68-75°F (20-24°C) (night) 55-60°F (13-16°C)	6.5-7.2 pH 0.75 mmhos/cm	Facultative Long Day	4"/4.5"/Quart, 1 (ppp), 12-14 (weeks), Spring	Maintain pH above 6.5. Do not allow plugs to become rootbound. Lisianthus are tender seedlings and are recommended as a plug-purchased item.
ORNAMENTAL PEPPER <i>Capsicum annuum</i> <b>Acapulco® Series</b>	288	(day) 68-80°F (20-27°C) (night) 66-70°F (19-21°C)	5.5-5.9 pH 1.8-2.5 mmhos/cm	Day Neutral	4"/4.5"/Quart, 1 (ppp), 12-13 (weeks), Autumn, PGR chlormequat chloride 1,000 ppm Spray	Plant plugs deeply. Water from below to keep surface of media dry. Grow plants dry until flowering, allowing slight wilt between watering. This will reduce stretch. PGR has negative side-effects on fruit-setting. A minimum of 2,000 Lux is recommended when supplemental lighting is being used.
ORNAMENTAL PEPPER <i>Capsicum annuum</i> <b>Blaze</b>	288	(day) 68-80°F (20-27°C) (night) 65-70°F (18-21°C)	5.5-6.2 pH 1.2-1.5 mmhos/cm	Day Neutral	4"/4.5"/Quart, 1 (ppp), 7-13 (weeks), Summer 5"/6"/1 Gallon, 1-3 (ppp), 7-13 (weeks), Summer 4"/4.5"/Quart, 1 (ppp), 7-13 (weeks), Autumn 5"/6"/1 Gallon, 1-3 (ppp), 7-13 (weeks), Autumn	Performs best under high light and warm temperatures. Add 4 to 5 weeks for Spring production crop times.
ORNAMENTAL PEPPER <i>Capsicum annuum</i> <b>Chilly Chili F<sub>1</sub></b>	288	(day) 68-80°F (20-27°C) (night) 65-70°F (18-21°C)	5.5-6.2 pH 1.2-1.5 mmhos/cm	Day Neutral	4"/4.5"/Quart, 1 (ppp), 7-13 (weeks), Summer 5"/6"/1 Gallon, 1-3 (ppp), 7-13 (weeks), Summer 4"/4.5"/Quart, 1 (ppp), 7-13 (weeks), Autumn 5"/6"/1 Gallon, 1-3 (ppp), 7-13 (weeks), Autumn	Performs best under high light and warm temperatures. Add 4 to 5 weeks for Spring production crop times. Growing plants on the dry side, allowing plants to wilt slightly prior to watering, helps provide height control.
ORNAMENTAL PEPPER <i>Capsicum annuum</i> <b>Coba</b>	288	(day) 68-80°F (20-27°C) (night) 66-70°F (19-21°C)	5.5-5.9 pH 1.8-2.5 mmhos/cm	Day Neutral	4"/4.5"/Quart, 1 (ppp), 12-13 (weeks), Autumn, PGR chlormequat chloride 1,000 ppm Spray	Plant plugs deeply. Water from below to keep surface of media dry. Grow plants dry until flowering, allowing slight wilt between watering. This will reduce stretch. PGR has negative side-effects on fruit-setting. A minimum of 2,000 Lux is recommended when supplemental lighting is being used.
ORNAMENTAL PEPPER <i>Capsicum annuum</i> <b>Cosmo</b>	288	(day) 68-80°F (20-27°C) (night) 66-70°F (19-21°C)	5.5-5.9 pH 1.8-2.5 mmhos/cm	Day Neutral	5"/6"/1 Gallon, 1 (ppp), 18 (weeks), Spring 5"/6"/1 Gallon, 1 (ppp), 16 (weeks), Summer	Plant plugs deeply. Water from below to keep surface of media dry. It is especially important to grow plants dry until flowering, allowing some wilt between watering. To optimize plant growth, space as soon as the plants touch. Keep the plants very dry from spacing to flowering to avoid stretch. Due to the weight of the fruit, we recommend staking plants to stabilize plants during shipment.
ORNAMENTAL PEPPER <i>Capsicum annuum</i> <b>Cupala</b>	288	(day) 68-80°F (20-27°C) (night) 66-70°F (19-21°C)	5.5-5.9 pH 1.8-2.5 mmhos/cm	Day Neutral	4"/4.5"/Quart, 1 (ppp), 11-12 (weeks), Autumn, PGR chlormequat chloride 1,000 ppm Spray	Plant plugs deeply. Water from below to keep surface of media dry. Grow plants dry until flowering, allowing slight wilt between watering. This will reduce stretch. PGR has negative side-effects on fruit-setting. A minimum of 2,000 Lux is recommended when supplemental lighting is being used.
ORNAMENTAL PEPPER <i>Capsicum annuum</i> <b>Fiesta</b>	288	(day) 68-80°F (20-27°C) (night) 66-70°F (19-21°C)	5.5-5.9 pH 1.8-2.5 mmhos/cm	Day Neutral	5"/6"/1 Gallon, 1 (ppp), 16 (weeks), Spring 5"/6"/1 Gallon, 1 (ppp), 14 (weeks), Summer	Plant plugs deeply. Water from below to keep surface of media dry. It is especially important to grow plants dry until flowering, allowing some wilt between watering. To optimize plant growth, space as soon as the plants touch. Keep the plants very dry from spacing to flowering to avoid stretch. Due to the weight of the fruit, we recommend staking plants to stabilize plants during shipment.

CLASS/SERIES	RECOMMENDED PLUG SIZE	GROWING ON TEMPERATURE (DAYS/NIGHTS)	TARGET MEDIA PH/EC	DAYLENGTH	FINISHING PROGRAMS	KEY TIPS
ORNAMENTAL PEPPER <i>Capsicum annuum</i> <b>Golden Cayenne</b>	288	(day) 68-80°F (20-27°C) (night) 66-70°F (19-21°C)	5.5-5.9 pH 1.8-2.5 mmhos/cm	Day Neutral	5"/6"/1 Gallon, 1 (ppp), 17 (weeks), Spring 5"/6"/1 Gallon, 1 (ppp), 15 (weeks), Summer	Plant plugs deeply. Water from below to keep surface of media dry. It is especially important to grow plants dry until flowering, allowing some wilt between watering. To optimize plant growth, space as soon as the plants touch. Keep the plants very dry from spacing to flowering to avoid stretch. Due to the weight of the fruit, we recommend staking plants to stabilize plants during shipment.
ORNAMENTAL PEPPER <i>Ornamental Pepper</i> <b>Habanero</b>	288	(day) 68-80°F (20-27°C) (night) 66-70°F (19-21°C)	5.5-5.9 pH 1.8-2.5 mmhos/cm	Day Neutral	5"/6"/1 Gallon, 1 (ppp), 20 (weeks), Spring 5"/6"/1 Gallon, 1 (ppp), 18 (weeks), Summer	Plant plugs deeply. Water from below to keep surface of media dry. It is especially important to grow plants dry until flowering, allowing some wilt between watering. To optimize plant growth, space as soon as the plants touch. Keep the plants very dry from spacing to flowering to avoid stretch. Due to the weight of the fruit, we recommend staking plants to stabilize plants during shipment.
ORNAMENTAL PEPPER <i>Capsicum annuum</i> <b>Harlequin</b>	288	(day) 68-80°F (20-27°C) (night) 66-70°F (19-21°C)	5.5-5.9 pH 1.8-2.5 mmhos/cm	Day Neutral	4"/4.5"/Quart, 1 (ppp), 13-14 (weeks), Autumn, PGR chlormequat chloride 1,000 ppm Spray	Plant plugs deeply. Water from below to keep surface of media dry. Grow plants dry until flowering, allowing slight wilt between watering. This will reduce stretch. PGR has negative side-effects on fruit-setting. A minimum of 2,000 Lux is recommended when supplemental lighting is being used.
ORNAMENTAL PEPPER <i>Capsicum annuum</i> <b>Hot Banana</b>	288	(day) 68-80°F (20-27°C) (night) 66-70°F (19-21°C)	5.5-5.9 pH 1.8-2.5 mmhos/cm	Day Neutral	5"/6"/1 Gallon, 1 (ppp), 14 (weeks), Spring 5"/6"/1 Gallon, 1 (ppp), 13 (weeks), Summer	Plant plugs deeply. Water from below to keep surface of media dry. It is especially important to grow plants dry until flowering, allowing some wilt between watering. To optimize plant growth, space as soon as the plants touch. Keep the plants very dry from spacing to flowering to avoid stretch. Due to the weight of the fruit, we recommend staking plants to stabilize plants during shipment.
ORNAMENTAL PEPPER <i>Capsicum annuum</i> <b>Hot Burrito</b>	288	(day) 68-80°F (20-27°C) (night) 66-70°F (19-21°C)	5.5-5.9 pH 1.8-2.5 mmhos/cm	Day Neutral	5"/6"/1 Gallon, 1 (ppp), 16 (weeks), Spring 5"/6"/1 Gallon, 1 (ppp), 14 (weeks), Summer	Plant plugs deeply. Water from below to keep surface of media dry. It is especially important to grow plants dry until flowering, allowing some wilt between watering. To optimize plant growth, space as soon as the plants touch. Keep the plants very dry from spacing to flowering to avoid stretch. Due to the weight of the fruit, we recommend staking plants to stabilize plants during shipment.
ORNAMENTAL PEPPER <i>Capsicum annuum</i> <b>Hot Carrot</b>	288	(day) 68-80°F (20-27°C) (night) 66-70°F (19-21°C)	5.5-5.9 pH 1.8-2.5 mmhos/cm	Day Neutral	5"/6"/1 Gallon, 1 (ppp), 17 (weeks), Spring 5"/6"/1 Gallon, 1 (ppp), 15 (weeks), Summer	Plant plugs deeply. Water from below to keep surface of media dry. It is especially important to grow plants dry until flowering, allowing some wilt between watering. To optimize plant growth, space as soon as the plants touch. Keep the plants very dry from spacing to flowering to avoid stretch. Due to the weight of the fruit, we recommend staking plants to stabilize plants during shipment.
ORNAMENTAL PEPPER <i>Capsicum annuum</i> <b>Hot Fajita</b>	288	(day) 68-80°F (20-27°C) (night) 66-70°F (19-21°C)	5.5-5.9 pH 1.8-2.5 mmhos/cm	Day Neutral	5"/6"/1 Gallon, 1 (ppp), 16 (weeks), Spring 5"/6"/1 Gallon, 1 (ppp), 14 (weeks), Summer	Plant plugs deeply. Water from below to keep surface of media dry. It is especially important to grow plants dry until flowering, allowing some wilt between watering. To optimize plant growth, space as soon as the plants touch. Keep the plants very dry from spacing to flowering to avoid stretch. Due to the weight of the fruit, we recommend staking plants to stabilize plants during shipment.
ORNAMENTAL PEPPER <i>Capsicum annuum</i> <b>Hot Joker</b>	288	(day) 68-80°F (20-27°C) (night) 66-70°F (19-21°C)	5.5-5.9 pH 1.8-2.5 mmhos/cm	Day Neutral	5"/6"/1 Gallon, 1 (ppp), 16 (weeks), Spring 5"/6"/1 Gallon, 1 (ppp), 14 (weeks), Summer	Plant plugs deeply. Water from below to keep surface of media dry. It is especially important to grow plants dry until flowering, allowing some wilt between watering. To optimize plant growth, space as soon as the plants touch. Keep the plants very dry from spacing to flowering to avoid stretch. Due to the weight of the fruit, we recommend staking plants to stabilize plants during shipment.
ORNAMENTAL PEPPER <i>Capsicum annuum</i> <b>Hot Lemon</b>	288	(day) 68-80°F (20-27°C) (night) 66-70°F (19-21°C)	5.5-5.9 pH 1.8-2.5 mmhos/cm	Day Neutral	5"/6"/1 Gallon, 1 (ppp), 17 (weeks), Spring 5"/6"/1 Gallon, 1 (ppp), 15 (weeks), Summer	Plant plugs deeply. Water from below to keep surface of media dry. It is especially important to grow plants dry until flowering, allowing some wilt between watering. To optimize plant growth, space as soon as the plants touch. Keep the plants very dry from spacing to flowering to avoid stretch. Due to the weight of the fruit, we recommend staking plants to stabilize plants during shipment.
ORNAMENTAL PEPPER <i>Capsicum annuum</i> <b>Hot Pops Series</b>	288	(day) 68-80°F (20-27°C) (night) 65-70°F (18-21°C)	5.5-6.2 pH 1.2-1.5 mmhos/cm	Day Neutral	4"/4.5"/Quart, 1 (ppp), 7-13 (weeks), Summer 5"/6"/1 Gallon, 1-3 (ppp), 7-13 (weeks), Summer 4"/4.5"/Quart, 1 (ppp), 7-13 (weeks), Autumn 5"/6"/1 Gallon, 1-3 (ppp), 7-13 (weeks), Autumn	Performs best under high light and warm temperatures. Add 4 to 5 weeks for Spring production crop times.
ORNAMENTAL PEPPER <i>Capsicum annuum</i> <b>Hot Tomato</b>	288	(day) 68-80°F (20-27°C) (night) 66-70°F (19-21°C)	5.5-5.9 pH 1.8-2.5 mmhos/cm	Day Neutral	5"/6"/1 Gallon, 1 (ppp), 17 (weeks), Spring 5"/6"/1 Gallon, 1 (ppp), 15 (weeks), Summer	Plant plugs deeply. Water from below to keep surface of media dry. It is especially important to grow plants dry until flowering, allowing some wilt between watering. To optimize plant growth, space as soon as the plants touch. Keep the plants very dry from spacing to flowering to avoid stretch. Due to the weight of the fruit, we recommend staking plants to stabilize plants during shipment.
ORNAMENTAL PEPPER <i>Capsicum annuum</i> <b>Jalapeño</b>	288	(day) 68-80°F (20-27°C) (night) 66-70°F (19-21°C)	5.5-5.9 pH 1.8-2.5 mmhos/cm	Day Neutral	5"/6"/1 Gallon, 1 (ppp), 18 (weeks), Spring 5"/6"/1 Gallon, 1 (ppp), 16 (weeks), Summer	Plant plugs deeply. Water from below to keep surface of media dry. It is especially important to grow plants dry until flowering, allowing some wilt between watering. To optimize plant growth, space as soon as the plants touch. Keep the plants very dry from spacing to flowering to avoid stretch. Due to the weight of the fruit, we recommend staking plants to stabilize plants during shipment.
ORNAMENTAL PEPPER <i>Capsicum annuum</i> <b>Joker</b>	288	(day) 68-80°F (20-27°C) (night) 66-70°F (19-21°C)	5.5-5.9 pH 1.8-2.5 mmhos/cm	Day Neutral	4"/4.5"/Quart, 1 (ppp), 11-12 (weeks), Autumn, PGR chlormequat chloride 1,000 ppm Spray	Plant plugs deeply. Water from below to keep surface of media dry. Grow plants dry until flowering, allowing slight wilt between watering. This will reduce stretch. PGR has negative side-effects on fruit-setting. A minimum of 2,000 Lux is recommended when supplemental lighting is being used.
ORNAMENTAL PEPPER <i>Capsicum annuum</i> <b>Macho</b>	288	(day) 68-80°F (20-27°C) (night) 66-70°F (19-21°C)	5.5-5.9 pH 1.8-2.5 mmhos/cm	Day Neutral	5"/6"/1 Gallon, 1 (ppp), 17 (weeks), Spring 5"/6"/1 Gallon, 1 (ppp), 15 (weeks), Summer	Plant plugs deeply. Water from below to keep surface of media dry. It is especially important to grow plants dry until flowering, allowing some wilt between watering. To optimize plant growth, space as soon as the plants touch. Keep the plants very dry from spacing to flowering to avoid stretch.
ORNAMENTAL PEPPER <i>Capsicum annuum</i> <b>Masquerade</b>	288	(day) 68-80°F (20-27°C) (night) 65-70°F (18-21°C)	5.5-6.2 pH 1.2-1.5 mmhos/cm	Day Neutral	5"/6"/1 Gallon, 1-3 (ppp), 7-12 (weeks), Summer 5"/6"/1 Gallon, 1-3 (ppp), 7-12 (weeks), Autumn	Performs best under high light and warm temperatures. Add 4 to 5 weeks for Spring production crop times.
ORNAMENTAL PEPPER <i>Capsicum annuum</i> <b>Medusa</b>	288	(day) 68-80°F (20-27°C) (night) 65-70°F (18-21°C)	5.5-6.2 pH 1.2-1.5 mmhos/cm	Day Neutral	4"/4.5"/Quart, 1 (ppp), 7-13 (weeks), Summer 5"/6"/1 Gallon, 1-3 (ppp), 7-13 (weeks), Summer 4"/4.5"/Quart, 1 (ppp), 7-13 (weeks), Autumn 5"/6"/1 Gallon, 1-3 (ppp), 7-13 (weeks), Autumn	Performs best under high light and warm temperatures. Add 4 to 5 weeks for Spring production crop times.

CLASS/SERIES	RECOMMENDED PLUG SIZE	GROWING ON TEMPERATURE (DAYS/NIGHTS)	TARGET MEDIA PH/EC	DAYLENGTH	FINISHING PROGRAMS	KEY TIPS
ORNAMENTAL PEPPER <i>Capsicum annuum</i> <b>Paracho</b>	288	(day) 68-70°F (20-21°C) (night) 66-70°F (19-21°C)	5.5-5.9 pH 1.8-2.5 mmhos/cm	Day Neutral	4"/4.5"/Quart, 1 (ppp), 12-13 (weeks), Autumn, PGR chlormequat chloride 1,000 ppm Spray	Plant plugs deeply. Water from below to keep surface of media dry. Grow plants dry until flowering, allowing slight wilt between watering. This will reduce stretch. PGR has negative side-effects on fruit-setting. A minimum of 2,000 Lux is recommended when supplemental lighting is being used.
ORNAMENTAL PEPPER <i>Capsicum annuum</i> <b>Red Bell</b>	288	(day) 68-80°F (20-27°C) (night) 66-70°F (19-21°C)	5.5-5.9 pH 1.8-2.5 mmhos/cm	Day Neutral	5"/6"/1 Gallon, 1 (ppp), 17 (weeks), Spring 5"/6"/1 Gallon, 1 (ppp), 15 (weeks), Summer	Plant plugs deeply. Water from below to keep surface of media dry. It is especially important to grow plants dry until flowering, allowing some wilt between watering. To optimize plant growth, space as soon as the plants touch. Keep the plants very dry from spacing to flowering to avoid stretch. Due to the weight of the fruit, we recommend staking plants to stabilize plants during shipment.
ORNAMENTAL PEPPER <i>Capsicum annuum</i> <b>Red Missile</b>	288	(day) 68-80°F (20-27°C) (night) 65-70°F (18-21°C)	5.5-6.2 pH 1.2-1.5 mmhos/cm	Day Neutral	4"/4.5"/Quart, 1 (ppp), 7-10 (weeks), Summer 5"/6"/1 Gallon, 1-3 (ppp), 7-11 (weeks), Summer 4"/4.5"/Quart, 1 (ppp), 7-10 (weeks), Autumn 5"/6"/1 Gallon, 1-3 (ppp), 7-11 (weeks), Autumn	Performs best under high light and warm temperatures. Add 4 to 5 weeks for Spring production crop times.
ORNAMENTAL PEPPER <i>Capsicum annuum</i> <b>Salsa Series</b>	288	(day) 68-80°F (20-27°C) (night) 66-70°F (19-21°C)	5.5-5.9 pH 1.8-2.5 mmhos/cm	Day Neutral	4"/4.5"/Quart, 1 (ppp), 12-13 (weeks), Autumn, PGR chlormequat chloride 1,000 ppm Spray	Plant plugs deeply. Water from below to keep surface of media dry. Grow plants dry until flowering, allowing slight wilt between watering. This will reduce stretch. PGR has negative side-effects on fruit-setting. A minimum of 2,000 Lux is recommended when supplemental lighting is being used.
ORNAMENTAL PEPPER <i>Capsicum annuum</i> <b>Samba Series</b>	288	(day) 68-80°F (20-27°C) (night) 66-70°F (19-21°C)	5.5-5.9 pH 1.8-2.5 mmhos/cm	Day Neutral	4"/4.5"/Quart, 1 (ppp), 14-15 (weeks), Autumn, PGR chlormequat chloride 1,000 ppm Spray	Plant plugs deeply. Water from below to keep surface of media dry. Grow plants dry until flowering, allowing slight wilt between watering. This will reduce stretch. PGR has negative side-effects on fruit-setting. A minimum of 2,000 Lux is recommended when supplemental lighting is being used.
ORNAMENTAL PEPPER <i>Capsicum annuum</i> <b>Samba XL Series</b>	288	(day) 68-80°F (20-27°C) (night) 66-70°F (19-21°C)	5.5-5.9 pH 1.8-2.5 mmhos/cm	Day Neutral	4"/4.5"/Quart, 1 (ppp), 14-15 (weeks), Autumn, PGR chlormequat chloride 1,000 ppm Spray	Plant plugs deeply. Water from below to keep surface of media dry. Grow plants dry until flowering, allowing slight wilt between watering. This will reduce stretch. PGR has negative side-effects on fruit-setting. A minimum of 2,000 Lux is recommended when supplemental lighting is being used.
ORNAMENTAL PEPPER <i>Capsicum annuum</i> <b>Santos Series</b>	288	(day) 68-80°F (20-27°C) (night) 66-70°F (19-21°C)	5.5-5.9 pH 1.8-2.5 mmhos/cm	Day Neutral	4"/4.5"/Quart, 1 (ppp), 12-13 (weeks), Autumn, PGR chlormequat chloride 1,000 ppm Spray	Plant plugs deeply. Water from below to keep surface of media dry. Grow plants dry until flowering, allowing slight wilt between watering. This will reduce stretch. PGR has negative side-effects on fruit-setting. A minimum of 2,000 Lux is recommended when supplemental lighting is being used.
ORNAMENTAL PEPPER <i>Capsicum annuum</i> <b>Snack Series</b>	288	(day) 68-80°F (20-27°C) (night) 66-70°F (19-21°C)	5.5-5.9 pH 1.8-2.5 mmhos/cm	Day Neutral	5"/6"/1 Gallon, 1 (ppp), 17 (weeks), Spring 5"/6"/1 Gallon, 1 (ppp), 15 (weeks), Summer	Plant plugs deeply. Water from below to keep surface of media dry. It is especially important to grow plants dry until flowering, allowing some wilt between watering. To optimize plant growth, space as soon as the plants touch. Keep the plants very dry from spacing to flowering to avoid stretch. Due to the weight of the fruit, we recommend staking plants to stabilize plants during shipment.
ORNAMENTAL PEPPER <i>Capsicum annuum</i> <b>Snack Supreme</b>	288	(day) 68-80°F (20-27°C) (night) 66-70°F (19-21°C)	5.5-5.9 pH 1.8-2.5 mmhos/cm	Day Neutral	5"/6"/1 Gallon, 1 (ppp), 17 (weeks), Spring 5"/6"/1 Gallon, 1 (ppp), 15 (weeks), Summer	Plant plugs deeply. Water from below to keep surface of media dry. It is especially important to grow plants dry until flowering, allowing some wilt between watering. To optimize plant growth, space as soon as the plants touch. Keep the plants very dry from spacing to flowering to avoid stretch. Due to the weight of the fruit, we recommend staking plants to stabilize plants during shipment.
ORNAMENTAL PEPPER <i>Capsicum annuum</i> <b>Torito</b>	288	(day) 68-80°F (20-27°C) (night) 66-70°F (19-21°C)	5.5-5.9 pH 1.8-2.5 mmhos/cm	Day Neutral	5"/6"/1 Gallon, 1 (ppp), 16 (weeks), Spring 5"/6"/1 Gallon, 1 (ppp), 14 (weeks), Summer	Plant plugs deeply. Water from below to keep surface of media dry. It is especially important to grow plants dry until flowering, allowing some wilt between watering. To optimize plant growth, space as soon as the plants touch. Keep the plants very dry from spacing to flowering to avoid stretch. Due to the weight of the fruit, we recommend staking plants to stabilize plants during shipment.
ORNAMENTAL PEPPER <i>Capsicum annuum</i> <b>Wicked</b>	288	(day) 68-80°F (20-27°C) (night) 65-70°F (18-21°C)	5.5-6.2 pH 1.2-1.5 mmhos/cm	Day Neutral	4"/4.5"/Quart, 1 (ppp), 7-13 (weeks), Summer 5"/6"/1 Gallon, 1-3 (ppp), 7-13 (weeks), Summer 4"/4.5"/Quart, 1 (ppp), 7-13 (weeks), Autumn 5"/6"/1 Gallon, 1-3 (ppp), 7-13 (weeks), Autumn	Performs best under high light and warm temperatures. Add 4 to 5 weeks for Spring production crop times.
ORNAMENTAL PEPPER <i>Capsicum annuum</i> <b>Yellow Tomato</b>	288	(day) 68-80°F (20-27°C) (night) 66-70°F (19-21°C)	5.5-5.9 pH 1.8-2.5 mmhos/cm	Day Neutral	5"/6"/1 Gallon, 1 (ppp), 17 (weeks), Spring 5"/6"/1 Gallon, 1 (ppp), 15 (weeks), Summer	Plant plugs deeply. Water from below to keep surface of media dry. It is especially important to grow plants dry until flowering, allowing some wilt between watering. To optimize plant growth, space as soon as the plants touch. Keep the plants very dry from spacing to flowering to avoid stretch. Due to the weight of the fruit, we recommend staking plants to stabilize plants during shipment.
ORNAMENTAL PEPPER <i>Capsicum annuum</i> <b>Zamora Series</b>	288	(day) 68-80°F (20-27°C) (night) 66-70°F (19-21°C)	5.5-5.9 pH 1.8-2.5 mmhos/cm	Day Neutral	4"/4.5"/Quart, 1 (ppp), 12-13 (weeks), Autumn, PGR chlormequat chloride 1,000 ppm Spray	Plant plugs deeply. Water from below to keep surface of media dry. Grow plants dry until flowering, allowing slight wilt between watering. This will reduce stretch. PGR has negative side-effects on fruit-setting. A minimum of 2,000 Lux is recommended when supplemental lighting is being used.
SUNFLOWER <i>Helianthus annuus</i> <b>Ballad F<sub>1</sub></b>	288	(day) 64-72°F (18-22°C) (night) 61-64°F (16-18°C)	5.8-6.2 pH 1.5-2.0 mmhos/cm	Facultative Short Day Can flower under different daylengths, but will flower slightly quicker under short days.	5"/6"/1 Gallon, 1-3 (ppp), 8-9 (weeks), Spring, PGR daminozide 3,500-5,000 ppm Spray 5"/6"/1 Gallon, 1-3 (ppp), 7-8 (weeks), Summer, PGR daminozide 3,500-5,000 ppm Spray	Plants grow shorter under short days. Plants will grow taller under longer days when no PGRs are applied. We recommend 1 ppp in 5-in. (13-cm) pots and 1 to 3 ppp in gallon pots.
SUNFLOWER <i>Helianthus annuus</i> <b>Choco Sun</b>	288	(day) 64-72°F (18-22°C) (night) 61-64°F (16-18°C)	5.8-6.2 pH 1.5-2.0 mmhos/cm	Facultative Short Day Can flower under different daylengths, but will flower slightly quicker under short days.	5"/6"/1 Gallon, 1 (ppp), 8-9 (weeks), Spring, PGR daminozide 3,500-5,000 ppm Spray 5"/6"/1 Gallon, 1 (ppp), 7-8 (weeks), Summer, PGR daminozide 3,500-5,000 ppm Spray	Plants grow shorter under short days. Plants will grow taller under longer days when no PGRs are applied.
SUNFLOWER <i>Helianthus annuus</i> <b>Miss Sunshine F<sub>1</sub></b>	288	(day) 64-72°F (18-22°C) (night) 61-64°F (16-18°C)	5.8-6.2 pH 1.5-2.0 mmhos/cm	Facultative Short Day Can flower under different daylengths, but will flower slightly quicker under short days.	5"/6"/1 Gallon, 1-3 (ppp), 7-8 (weeks), Spring, PGR daminozide 1,250-2,500 ppm Spray 5"/6"/1 Gallon, 1-3 (ppp), 6-7 (weeks), Summer, PGR daminozide 1,250-2,500 ppm Spray	Plants grow shorter under short days. Plants will grow taller under longer days when no PGRs are applied. We recommend 1 ppp in 5-in. (13-cm) pots and 1 to 3 ppp in gallon pots.
SUNFLOWER <i>Helianthus annuus</i> <b>SunBuzz F<sub>1</sub></b>	288	(day) 64-72°F (18-22°C) (night) 61-64°F (16-18°C)	5.8-6.2 pH 1.5-2.0 mmhos/cm	Facultative Short Day Will flower slightly quicker under short day conditions.	5"/6"/1 Gallon, 1-3 (ppp), 7-8 (weeks), Spring, PGR daminozide 3,500-5,000 ppm Spray 5"/6"/1 Gallon, 1-3 (ppp), 6-7 (weeks), Summer, PGR daminozide 3,500-5,000 ppm Spray	Plants will stay shorter under short day conditions and grow taller under long day conditions. Take this in consideration when using PGRs. 1 plant per 5-in./13-cm pot and 3 plants per gallon pot are recommended.



**ANNUALS** PROPAGATION GUIDE P. 6 / FINISHING GUIDE P. 44

**PERENNIALS** PROPAGATION GUIDE P. 82 / FINISHING GUIDE P. 96 / FORCING GUIDE P. 110

**POT PLANTS** PROPAGATION GUIDE P. 114 / FINISHING GUIDE P. 128

**HANDPICKED VEGETABLES & HERBS** PROPAGATION GUIDE P. 154 / FINISHING GUIDE P. 166

# cut flowers

PanAmerican Seed®

CLASS/SERIES	SEED FORM	RECOMMENDED PLUG SIZE	PLUG CROP WEEKS	SEEDS/ CELL	COVER SEED	DAYS TO GERMINATE	INITIAL MEDIA PH/EC	STAGE 1	STAGE 2	STAGE 3	STAGE 4	KEY TIPS
ANEMONE <i>Anemone coronaria</i> <b>Mona Lisa® Series</b>	RAW	288	7-8	1	Yes	10-14	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 65-70°F (18-21°C)	(m) Level 3-4 (t) 65-70°F (18-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 60-65°F (16-18°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 3 (t) 60°F (16°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Because anemone is slow-growing; maintain appropriate conditions such as moisture, temperature, fertilization and insect disease control to produce a healthy plug.
ASCLEPIAS <i>Asclepias curassavica</i> <b>Silky Series</b>	RAW	288	5-6	1	Light cover	5-11	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 68-72°F (20-22°C) (l) Dark (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3 (t) 65-68°F (18-20°C) (l) 2,000-2,500 f.c. (21,500-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-3 (t) 65-68°F (18-20°C) (l) 3,000-4,000 f.c. (32,300-43,100 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2 (t) 60-65°F (16-18°C) (l) 4,000-5,000 f.c. (43,100-53,800 Lux) (f) 175 to 225 ppm N - 1.2 to 1.5 EC	Germinate in the dark!
CAMPANULA <i>Campanula medium</i> <b>Campana F<sub>1</sub> Series</b>	PEL	288	7-8	1	No	4-5	5.8-6.5 pH 0.75 mmhos/cm	(m) Level 4 (t) 68-72°F (20-22°C) (l) Light (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-72°F (20-22°C) (l) 370-2,500 f.c. (4,000-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 60-65°F (16-18°C) (l) 370-2,500 f.c. (4,000-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 3-4 (t) 60-65°F (16-18°C) (l) 370-5,000 f.c. (4,000-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Qualitative long-day plant. To ensure sufficient vegetative growth and stem length, provide short-day conditions in plug stage (<11 hours) from approximately 1.5 to 2 weeks after sowing. After transplant, keep plants in long days (>14 hours) when planted in Spring or Summer. When producing for Winter flowering, provide long days (> 14 hours) at 4 to 5 weeks after transplanting. Mum lighting from 10 p.m. to 2 a.m. can be used. Maintain a medium moisture level. To reach sufficient stem length, campanula medium needs adequate moisture and fertilization. Dry growing conditions will cause early flowering and reduced stem length. However, over-watering will cause weaker stems and root systems, which will cause plants to fall over.
CARTHAMUS <i>Carthamus tinctorius</i> <b>Grenade Series</b>	COT	Direct sow	N/A					(t) 54-60°F (12-16°C) (f) Less than 100 ppm N - Less than 0.7 EC				Direct seeding is recommended. Plan for rows to be spaced 12 in. (30 cm) apart; thin seedlings to 2.5 in. (6 cm) within the row. Carthamus forms a taproot so if attempting to grow from plugs, plan to transplant seedlings 5 to 7 days after sowing.
CELOSIA <i>Celosia cristata</i> <b>Bombay® Series</b>	COT	288	2-3	1	Light cover	3-4	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 68-72°F (20-22°C) (l) Light (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 4 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 3-4 (t) 68-72°F (20-22°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Quantitative short-day plant. Flowers will initiate under short days. The optimum daylength for Bombay to reach the appropriate stem length lies between 12 to 13 hours. Celosia makes a taproot and is sensitive to root damage, which will result in early bud formation, deformed flowers and less uniformity. Therefore, plant before the plugs get rootbound. Maintain a constantly moist media, especially for the first 2 weeks after transplanting, to prevent premature flowering.
CELOSIA <i>Celosia spicata</i> <b>Celway® Series</b>	COT	288	2-3	1	Light cover	3-4	5.8-6.5 pH 0.75 mmhos/cm	(m) Level 4 (t) 68-72°F (20-22°C) (l) Light (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 4 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 3-4 (t) 68-72°F (20-22°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Quantitative short-day plant. Flowers will initiate under short days. The optimum daylength for Celway to reach the appropriate stem length lies between 12 to 13 hours. Celosia makes a taproot and is sensitive to root damage, which will result in early bud formation, deformed flowers and less uniformity. Therefore, plant before the plugs get rootbound. Maintain a constantly moist media, especially for the first 2 weeks after transplanting, to prevent premature flowering.
CELOSIA <i>Celosia cristata</i> <b>Neo Series</b>	COT	288	2-3	1	Light cover	3-4	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 68-72°F (20-22°C) (l) Light (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 4 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 3-4 (t) 68-72°F (20-22°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Quantitative short-day plant. Flowers will initiate under short days. Celosia makes a taproot and is sensitive to root damage, which will result in early bud formation, deformed flowers and less uniformity. Therefore, plant before the plugs get rootbound. Maintain a constantly moist media, especially for the first 2 weeks after transplanting to prevent premature flowering.

CLASS/SERIES	SEED FORM	RECOMMENDED PLUG SIZE	PLUG CROP WEEKS	SEEDS/ CELL	COVER SEED	DAYS TO GERMINATE	INITIAL MEDIA PH/EC	STAGE 1	STAGE 2	STAGE 3	STAGE 4	KEY TIPS
CELOSIA <i>Celosia cristata</i> <b>Spring Green</b>	COT	288	2-3	1	Light cover	3-4	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 68-72°F (20-22°C) (l) Light (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 4 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 3-4 (t) 68-72°F (20-22°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Quantitative short-day plant. Flowers will initiate under short days. The optimum daylength for Spring Green to reach the appropriate stem length lies between 12 to 13 hours. Celosia makes a taproot and is sensitive to root damage, which will result in early bud formation, deformed flowers and less uniformity. Therefore, plant before the plugs get rootbound. Maintain a constantly moist media, especially for the first 2 weeks after transplanting, to prevent premature flowering.
CELOSIA <i>Celosia plumosa</i> <b>Sunday® Series</b>	COT	288	2-3	1	Light cover	3-4	5.8-6.5 pH 0.75 mmhos/cm	(m) Level 4 (t) 68-72°F (20-22°C) (l) Light (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 4 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(t) 68-72°F (20-22°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Quantitative short-day plant. Flowers will initiate under short days. The optimum daylength for Sunday to reach the appropriate stem length lies between 12 to 13 hours. Celosia makes a taproot and is sensitive to root damage, which will result in early bud formation, deformed flowers and less uniformity. Therefore, plant before the plugs get rootbound. Maintain a constantly moist media, especially for the first 2 weeks after transplanting, to prevent premature flowering.
DELPHINIUM <i>Delphinium x belladonna</i> <b>Blue Donna</b>	RAW	288	6-8	1	Yes	7-10	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 65-70°F (18-21°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3 (t) 65-68°F (18-20°C) (l) 2,000-2,500 f.c. (21,500-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 65-68°F (18-20°C) (l) 6-8 mol·m <sup>-2</sup> ·d <sup>-1</sup> , 2,000-2,500 f.c. (21,500-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2 (t) 60-65°F (16-18°C) (l) 6-8 mol·m <sup>-2</sup> ·d <sup>-1</sup> , 4,000-5,000 f.c. (43,100-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	
DELPHINIUM <i>Delphinium elatum</i> <b>Guardian F<sub>1</sub> Series</b>	RAW	288	5-6	1	Yes	5-6	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 65-70°F (18-21°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3 (t) 65-68°F (18-20°C) (l) 2,000-2,500 f.c. (21,500-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2 (t) 60-65°F (16-18°C) (l) 2,000-2,500 f.c. (21,500-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2 (t) 60-65°F (16-18°C) (l) 4,000-5,000 f.c. (43,100-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Autumn: greenhouse 13 weeks, field 16 weeks. Spring: greenhouse 11 weeks, field 13 weeks. Treat cut stems with an ethylene-inhibiting agent. 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.
DIANTHUS <i>Dianthus barbatus interspecific</i> <b>Amazon F<sub>1</sub> Series</b>	PEL	288	4-5	1	Yes	3-4	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 64-68°F (18-20°C) (l) Light	(m) Level 3-4 (t) 65-70°F (18-21°C) (l) 5-8 mol·m <sup>-2</sup> ·d <sup>-1</sup> (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 60-65°F (16-18°C) (l) 8-10 mol·m <sup>-2</sup> ·d <sup>-1</sup> (f) Less than 100 ppm N - Less than 0.7 EC (p) paclobutrazol 4-6 ppm Spray	(m) Level 3 (t) 60-65°F (16-18°C) (l) 10 mol·m <sup>-2</sup> ·d <sup>-1</sup> (f) 100 to 175 ppm N - 0.7 to 1.2 EC	A small percentage (3 to 5%) of early off-types can be observed with Amazon dianthus at 4 to 5 weeks from sowing. These plants should be removed/discarded at transplant.
DIANTHUS <i>Dianthus barbatus interspecific</i> <b>Bouquet F<sub>1</sub> Series</b>	PEL	288	5-6	1	Yes	3-4	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 64-68°F (18-20°C) (l) Optional	(m) Level 3-4 (t) 65-70°F (18-21°C) (l) 5-8 mol·m <sup>-2</sup> ·d <sup>-1</sup> (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 60-65°F (16-18°C) (l) 8-10 mol·m <sup>-2</sup> ·d <sup>-1</sup> (f) 100 to 175 ppm N - 0.7 to 1.2 EC (p) paclobutrazol 4-6 ppm Spray	(m) Level 3 (t) 55-60°F (13-16°C) (l) 10 mol·m <sup>-2</sup> ·d <sup>-1</sup> (f) 175 to 225 ppm N - 1.2 to 1.5 EC	
DIANTHUS <i>Dianthus barbatus</i> <b>Sweet F<sub>1</sub> Series</b>	PEL	288	5-6	1	Yes	3-4	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 64-68°F (18-20°C) (l) Optional	(m) Level 3-4 (t) 65-70°F (18-21°C) (l) 5-8 mol·m <sup>-2</sup> ·d <sup>-1</sup> (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 60-65°F (16-18°C) (l) 8-10 mol·m <sup>-2</sup> ·d <sup>-1</sup> (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3 (t) 55-60°F (13-16°C) (l) 10 mol·m <sup>-2</sup> ·d <sup>-1</sup> (f) 175 to 225 ppm N - 1.2 to 1.5 EC	
GOMPHRENA <i>Gomphrena haageana</i> <b>QIS Series</b>	RAW	288	5-6	1	Yes	2-3	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 68-72°F (20-22°C)	(m) Level 3-4 (t) 65-70°F (18-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 65-70°F (18-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 3 (t) 60-65°F (16-18°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	
LIMONIUM <i>Limonium sinuatum</i> <b>QIS Series</b>	RAW	288	4-5	1	Yes	3-8	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 65-70°F (18-21°C)	(m) Level 3-4 (t) 60-65°F (16-18°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 60-65°F (16-18°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 3 (t) 55-60°F (13-16°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Plants flower more rapidly and uniformly if subjected to a cold treatment of 50 to 55°F (10 to 13°C) for 3 to 5 weeks following germination.
LISIANTHUS <i>Eustoma grandiflorum</i> <b>ABC F<sub>1</sub> Series</b>	PEL	406	8-10	1	Light cover	8-12	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 68-72°F (20-22°C) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 3-4 (t) 65-68°F (18-20°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 3 (t) 62-65°F (17-18°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 175 to 225 ppm N - 1.2 to 1.5 EC	Avoid high media temperature (>72°F/22°C) beginning in Stage 2, as it can induce rosetting in the seedling, which will cause stunting after the plugs are transplanted. Also, it is very important to establish a preventative disease and insect control practice for lisianthus production.



CLASS/SERIES	SEED FORM	RECOMMENDED PLUG SIZE	PLUG CROP WEEKS	SEEDS/ CELL	COVER SEED	DAYS TO GERMINATE	INITIAL MEDIA PH/EC	STAGE 1	STAGE 2	STAGE 3	STAGE 4	KEY TIPS
LISIANTHUS <i>Eustoma grandiflorum</i> <b>Flare F<sub>1</sub> Series</b>	PEL	406	8-10	1	Light cover	8-12	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 68-72°F (20-22°C) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 3-4 (t) 65-68°F (18-20°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 3 (t) 62-65°F (17-18°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 175 to 225 ppm N - 1.2 to 1.5 EC	Avoid high media temperature (>72°F/22°C) beginning in Stage 2, as it can induce rosetting in the seedling, which will cause stunting after the plugs are transplanted. Also, it is very important to establish a preventative disease and insect control practice for lisianthus production.
MATRICARIA <i>Tanacetum parthenium</i> <b>Vegmo Series</b>	PEL	288	4-5	1	No	3-5	5.6-5.9 pH 0.5 mmhos/cm	(m) Level 5 (t) 64-68°F (18-20°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 64-68°F (18-20°C) (l) 1,500-2,500 f.c. (16,100-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 64-68°F (18-20°C) (l) 1,500-2,500 f.c. (16,100-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-3 (t) 60-65°F (16-18°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	16 hours of lighting is required for flowering; supplemental lighting may be solid or cyclic. Matricaria are not sensitive to ethylene.
MATTHIOLA <i>Matthiola incana</i> <b>Aida Series</b>	RAW	288	5-6	1	Yes	2-4	5.6-5.9 pH 0.5 mmhos/cm	(m) Level 4 (t) 59-64°F (15-18°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 59-64°F (15-18°C) (l) 1,500-2,500 f.c. (16,100-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 59-64°F (15-18°C) (l) 1,500-2,500 f.c. (16,100-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 1-2 (t) 59-64°F (15-18°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Double-flowering matthiola may be selected from single-flowering types by exposing seedlings with fully expanded cotyledons to 41°F (5°C) for approximately 4 to 7 days. At this point, seedlings of double-flowering plants will appear a pale green, while singles remain dark green. After removal from cold treatment, double-flowering seedlings will appear yellow and chlorotic within 1 to 2 days, while single-flowering seedlings remain robust and green. This cold treatment may only be done once to selectable matthiola plugs.
MATTHIOLA <i>Matthiola incana</i> <b>Column Stock Series</b>	RAW	Direct sow	N/A		Yes	14-21	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 65-70°F (18-21°C)	(m) Level 3-4 (t) 60-65°F (16-18°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 60-65°F (16-18°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 3 (t) 55-60°F (13-16°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	In field grown-type stocks, typically the seed is directly sown into the field, so it's important to maintain the optimal field conditions, especially the moisture conditions, for the seed to germinate and establish.
MATTHIOLA <i>Matthiola incana</i> <b>Figaro Series</b>	RAW	288	5-6	1	Yes	2-4	5.6-5.9 pH 0.5 mmhos/cm	(m) Level 4 (t) 59-64°F (15-18°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 59-64°F (15-18°C) (l) 1,500-2,500 f.c. (16,100-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-3 (t) 59-64°F (15-18°C) (l) 1,500-2,500 f.c. (16,100-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 1-2 (t) 59-64°F (15-18°C) (l) 1,500-2,500 f.c. (16,100-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Double-flowering matthiola may be selected from single-flowering types by exposing seedlings with fully expanded cotyledons to 41°F (5°C) for approximately 4 to 7 days. At this point, seedlings of double-flowering plants will appear a pale green, while singles remain dark green. After removal from cold treatment, double-flowering seedlings will appear yellow and chlorotic within 1 to 2 days, while single-flowering seedlings remain robust and green. This cold treatment may only be done once to selectable matthiola plugs.
MATTHIOLA <i>Matthiola incana</i> <b>Katz Series</b>	RAW	512	4	1	Yes	3-4	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 68-72°F (20-22°C)	(m) Level 3-4 (t) 60-65°F (16-18°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 60-65°F (16-18°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 3 (t) 55-60°F (13-16°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Incorporate a preventative fungicide program for Downy Mildew control.
MATTHIOLA <i>Matthiola incana</i> <b>Mathilda Series</b>	RAW	288	5-6	1	Yes	2-4	5.6-5.9 pH 0.5 mmhos/cm	(m) Level 4 (t) 59-64°F (15-18°C) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 59-64°F (15-18°C) (l) 1,500-2,500 f.c. (16,100-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 59-64°F (15-18°C) (l) 1,500-2,500 f.c. (16,100-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 1-2 (t) 59-64°F (15-18°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Double-flowering matthiola may be selected from single-flowering types by exposing seedlings with fully expanded cotyledons to 41°F (5°C) for approximately 4 to 7 days. At this point, seedlings of double-flowering plants will appear a pale green, while singles remain dark green. After removal from cold treatment, double-flowering seedlings will appear yellow and chlorotic within 1 to 2 days, while single-flowering seedlings remain robust and green. This cold treatment may only be done once to selectable matthiola plugs.
MATTHIOLA <i>Matthiola incana</i> <b>Opera Series</b>	RAW	288	5-6	1	Yes	2-4	5.6-5.9 pH 0.5 mmhos/cm	(m) Level 4 (t) 59-64°F (15-18°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 59-64°F (15-18°C) (l) 1,500-2,500 f.c. (16,100-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 59-64°F (15-18°C) (l) 1,500-2,500 f.c. (16,100-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 1-2 (t) 59-64°F (15-18°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Double-flowering matthiola may be selected from single-flowering types by exposing seedlings with fully expanded cotyledons to 41°F (5°C) for approximately 4 to 7 days. At this point, seedlings of double-flowering plants will appear a pale green, while singles remain dark green. After removal from cold treatment, double-flowering seedlings will appear yellow and chlorotic within 1 to 2 days, while single-flowering seedlings remain robust and green. This cold treatment may only be done once to selectable matthiola plugs.

CLASS/SERIES	SEED FORM	RECOMMENDED PLUG SIZE	PLUG CROP WEEKS	SEEDS/ CELL	COVER SEED	DAYS TO GERMINATE	INITIAL MEDIA PH/EC	STAGE 1	STAGE 2	STAGE 3	STAGE 4	KEY TIPS
SNAPDRAGON <i>Antirrhinum majus</i> <b>Cool F<sub>1</sub> Series</b>	RAW	406	4-5	1	Light cover	4-5	5.5-6.0 pH 0.75 mmhos/cm	(m) Level 4 (t) 65-70°F (18-21°C)	(m) Level 3-4 (t) 60-65°F (16-18°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 60-65°F (16-18°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 3 (t) 60°F (16°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Avoid high media pH (>6.5), as this can cause iron and boron deficiency. Tip abortion of the seedlings can be caused by boron deficiency, high EC and excessive moisture accumulation on the growing tip, followed by poor air circulation. Incorporate a preventative fungicide program for Downy Mildew control.
SNAPDRAGON <i>Antirrhinum majus</i> <b>Early Potomac® F<sub>1</sub> Series</b>	RAW	406	4-5	1	Light cover	4-6	5.5-6.0 pH 0.75 mmhos/cm	(m) Level 4 (t) 65-70°F (18-21°C)	(m) Level 3-4 (t) 60-65°F (16-18°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 60-65°F (16-18°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 3 (t) 60°F (16°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Avoid high media pH (>6.5), as this can cause iron and boron deficiency. Tip abortion of the seedlings can be caused by boron deficiency, high EC and excessive moisture accumulation on the growing tip, followed by poor air circulation. Incorporate a preventative fungicide program for Downy Mildew control.
SNAPDRAGON <i>Antirrhinum majus</i> <b>Maryland F<sub>1</sub> Series</b>	RAW	406	4-5	1	Light cover	4-5	5.5-6.0 pH 0.75 mmhos/cm	(m) Level 4 (t) 65-70°F (18-21°C)	(m) Level 3-4 (t) 60-65°F (16-18°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 60-65°F (16-18°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 3 (t) 60°F (16°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Avoid high media pH (>6.5), as this can cause iron and boron deficiency. Tip abortion of the seedlings can be caused by boron deficiency, high EC and excessive moisture accumulation on the growing tip, followed by poor air circulation. Incorporate a preventative fungicide program for Downy Mildew control.
SNAPDRAGON <i>Antirrhinum majus</i> <b>Monaco F<sub>1</sub> Series</b>	RAW	406	4-5	1	Light cover	4-5	5.5-6.0 pH 0.75 mmhos/cm	(m) Level 4 (t) 65-70°F (18-21°C)	(m) Level 3-4 (t) 60-65°F (16-18°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 60-65°F (16-18°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 3 (t) 60°F (16°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Avoid high media pH (>6.5), as this can cause iron and boron deficiency. Tip abortion of the seedlings can be caused by boron deficiency, high EC and excessive moisture accumulation on the growing tip, followed by poor air circulation. Incorporate a preventative fungicide program for Downy Mildew control.
SNAPDRAGON <i>Antirrhinum majus</i> <b>Potomac® F<sub>1</sub> Series</b>	RAW	406	4-5	1	Light cover	4-5	5.5-6.0 pH 0.75 mmhos/cm	(m) Level 4 (t) 65-70°F (18-21°C)	(m) Level 3-4 (t) 60-65°F (16-18°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 60-65°F (16-18°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 3 (t) 60°F (16°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Avoid high media pH (>6.5), as this can cause iron and boron deficiency. Tip abortion of the seedlings can be caused by boron deficiency, high EC and excessive moisture accumulation on the growing tip, followed by poor air circulation. Incorporate a preventative fungicide program for Downy Mildew control.
SNAPDRAGON <i>Antirrhinum majus</i> <b>Purple Twist F<sub>1</sub></b>	RAW	406	4-5	1	Light cover	4-5	5.5-6.0 pH 0.75 mmhos/cm	(m) Level 4 (t) 65-70°F (18-21°C)	(m) Level 3-4 (t) 60-65°F (16-18°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 60-65°F (16-18°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 3 (t) 60°F (16°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Avoid high media pH (>6.5), as this can cause iron and boron deficiency. Tip abortion of the seedlings can be caused by boron deficiency, high EC and excessive moisture accumulation on the growing tip, followed by poor air circulation. Incorporate a preventative fungicide program for Downy Mildew control.
SNAPDRAGON <i>Antirrhinum majus</i> <b>Red Delilah F<sub>1</sub></b>	RAW	406	4-5	1	Light cover	4-5	5.5-6.0 pH 0.75 mmhos/cm	(m) Level 4 (t) 65-70°F (18-21°C) (l) Optional	(m) Level 3-4 (t) 60-65°F (16-18°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 60-65°F (16-18°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 3 (t) 60°F (16°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Avoid high media pH (>6.5), as this can cause iron and boron deficiency. Tip abortion of the seedlings can be caused by boron deficiency, high EC and excessive moisture accumulation on the growing tip, followed by poor air circulation. Incorporate a preventative fungicide program for Downy Mildew control.
SNAPDRAGON <i>Antirrhinum majus</i> <b>Rocket F<sub>1</sub> Series</b>	RAW	406	5-6	1	Light cover	4-8	5.5-6.0 pH 0.75 mmhos/cm	(m) Level 4 (t) 65-68°F (18-20°C)	(m) Level 3-4 (l) 2,500 f.c. (26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (l) 2,500 f.c. (26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 3 (l) 5,000 f.c. (53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Bronze, Golden, Pink, Red and Rose Shades will germinate best with light. Avoid high media pH (>6.5), as this can cause iron and boron deficiency. Tip abortion of the seedlings can be caused by Boron deficiency, high EC and excessive moisture accumulation on the growing tip, followed by poor air circulation. Incorporate a preventative fungicide program for Downy Mildew control.
SUNFLOWER <i>Helianthus annuus</i> <b>Jua F<sub>1</sub> Series</b>	TRT	288 Direct sow	2-2.5	1	Yes	2-3	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 68-75°F (20-24°C)	(m) Level 3-4 (t) 65-70°F (18-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 60-65°F (16-18°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 3 (t) 55-60°F (13-16°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Can also be direct sown in the field and will take about 3 to 5 days to germinate.
TRACHELIUM <i>Trachelium caeruleum</i> <b>Lake Series</b>	PEL	288	7-9	1	No	5-7	6.0 pH 0.5-0.9 mmhos/cm	(m) Level 4 (t) 62-70°F (17-21°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 62-70°F (17-21°C) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 62-70°F (17-21°C) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-3 (t) 62-70°F (17-21°C) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Trachelium is very sensitive to high salts, particularly high ammonium, during germination. Trachelium needs 16-hour daylengths for faster flowering. Should be transplanted Autumn to early Winter for flowering in mid-Winter to early Spring.

CLASS/SERIES	DAYLENGTH	RECOMMENDED PLUG SIZE	FINISHING PROGRAMS	GROWING ON TEMPERATURE (DAYS/NIGHTS)	STEM LENGTH	KEY TIPS
ANEMONE <i>Anemone coronaria</i> <b>Mona Lisa® Series</b>	Day Neutral	288	Spring: 2-4 plants/ft <sup>2</sup> (22-43 plants/m <sup>2</sup> ), 12-14 weeks	<b>Before flower development:</b> (day) 60-65°F (16-18°C) (night) 55°F (13°C)	18 in. (46 cm)	Optimal stem length can be achieved with cool growing conditions (53 to 58°F/12 to 14°C) and long-day conditions.  NOTE: To produce in 4-in. (10-cm) pots for pot crop or bedding plant programs, PGR treatments are needed. Apply Bonzi as a drench at a 2 ppm concentration about 5 to 6 weeks after transplant into a 4-in. (10-cm) pot. One application of Bonzi should be enough. Drench rates up to 4 ppm of Bonzi can be used with good results. Make sure that the crop has a well-developed root mass before the drench application; the roots should fill the pot.
ASCLEPIAS <i>Asclepias curassavica</i> <b>Silky Series</b>	Day Neutral	288	<b>Greenhouse:</b> Summer: 2-3 plants/ft <sup>2</sup> (22-32 plants/m <sup>2</sup> ), 11-13 weeks	<b>Summer:</b> (day) 70-75°F (21-24°C) (night) 60-65°F (16-18°C)	22-28 in. (56-71 cm)	Asclepias curassavica has difficulty absorbing water right after harvest. The right harvest time and method reduce fluid loss of the stems and stimulate water absorption. Harvest when unbel is two-thirds open, very early or very late in the day. DO NOT sear the stems in hot water as you would do with other asclepias. Post Harvest Treatment: 2 ml/l Florissant 100 + Florissant 700 1 ml/l for 4 hours immediately after harvest, followed by 10 ml/l Florissant 600 after processing the flowers. Send to the auction in this solution. Avoid dry transport. Storage and transport is best between 41 to 45°F (5 to 7°C).
CAMPANULA <i>Campanula medium</i> <b>Campana F<sub>1</sub> Series</b>	Obligate Long Day Plants need long day (> 14 hour daylength) for flower initiation.	288	6-8 plants/ft <sup>2</sup> (65-86 plants/m <sup>2</sup> ), 10-14 weeks	(day) 60-70°F (16-21°C) (night) 54-59°F (12-15°C)	30-34 in. (76-86 cm)	To ensure sufficient vegetative growth and stem length, provide short-day conditions in plug stage (<11 hours) from approximately 1.5 to 2 weeks after sowing. After transplant, keep plants in long days (>14 hours) when planted in Spring or Summer. When producing for Winter flowering, provide long days (>14 hours) at 4 to 5 weeks after transplanting. Mum lighting from 10 p.m. to 2 a.m. can be used. Maintain a medium moisture level. To reach sufficient stem length, campanula medium needs adequate moisture and fertilization. Dry growing conditions will cause early flowering and reduced stem length. However, over-watering will cause weaker stems and root systems, which will cause plants to fall over.
CARTHAMUS <i>Carthamus tinctorius</i> <b>Grenade Series</b>		Direct sow	<b>Field grown:</b> Summer: 14 weeks	(day) 70-75°F (21-24°C) (night) 50-55°F (10-13°C)	32-40 in. (81-102 cm)	From Spring sowing in Northern Europe, harvest July through September.
CELOSIA <i>Celosia cristata</i> <b>Bombay® Series</b>	Facultative Short Day The optimum daylength for Bombay to reach the appropriate stem length lies between 12 to 13 hours.	288	6-8 plants/ft <sup>2</sup> (65-86 plants/m <sup>2</sup> ), 10-14 weeks	(day) 61-60°F (16°C) (night) 59°F (15°C) <b>Before flower development:</b> (day) 65-75°F (18-24°C) (night) 63-65°F (17-18°C)	28-40 in. (71-102 cm)	Celosia makes a taproot and is sensitive to root damage, which will result in early bud formation, deformed flowers and less uniformity. Therefore, plant before the plugs get rootbound. Maintain a constantly moist media, especially for the first 2 weeks after transplanting, to prevent premature flowering.
CELOSIA <i>Celosia spicata</i> <b>Celway® Series</b>	Facultative Short Day Quantitative short-day plant. Flowers will initiate under short days. The optimum daylength for Celway to reach the appropriate stem length lies between 12 to 13 hours.	288	6-8 plants/ft <sup>2</sup> (65-86 plants/m <sup>2</sup> ), 12-16 weeks	(day) 65-75°F (18-24°C) (night) 63-65°F (17-18°C)	40-48 in. (102-122 cm)	Celosia makes a taproot and is sensitive to root damage, which will result in early bud formation, deformed flowers and less uniformity. Therefore, plant before the plugs get rootbound. Maintain a constantly moist media, especially for the first 2 weeks after transplanting, to prevent premature flowering.
CELOSIA <i>Celosia cristata</i> <b>Neo Series</b>	Facultative Short Day Quantitative short-day plant. Flowers will initiate faster under short days.	288	6-8 plants/ft <sup>2</sup> (65-86 plants/m <sup>2</sup> ), 8-12 weeks	(day) 60-61°F (16°C) (night) 59°F (15°C) <b>Before flower development:</b> (day) 65-75°F (18-24°C) (night) 63-65°F (17-18°C)	28-40 in. (71-102 cm)	We recommend to give the plants a short-day treatment for 3 to 4 weeks after transplant for the best uniformity and quality crop. After the short-day treatment, plants can be grown in long days. Celosia makes a taproot and is sensitive to root damage, which will result in early bud formation, deformed flowers and less uniformity. Therefore, plant before the plugs get rootbound. Maintain a constantly moist media, especially for the first 2 weeks after transplanting, to prevent premature flowering.
CELOSIA <i>Celosia cristata</i> <b>Spring Green</b>	Facultative Short Day The optimum daylength to reach the appropriate stem length lies between 12 to 13 hours.	288	6-8 plants/ft <sup>2</sup> (65-86 plants/m <sup>2</sup> ), 10-14 weeks	(day) 60-61°F (16°C) (night) 59°F (15°C) <b>Before flower development:</b> (day) 65-75°F (18-24°C) (night) 63-65°F (17-18°C)	28-40 in. (71-102 cm)	Celosia makes a taproot and is sensitive to root damage, which will result in early bud formation, deformed flowers and less uniformity. Therefore, plant before the plugs get rootbound. Maintain a constantly moist media, especially for the first 2 weeks after transplanting, to prevent premature flowering.
CELOSIA <i>Celosia plumosa</i> <b>Sunday® Series</b>	Facultative Short Day Will initiate flowers faster in short days. The optimum daylength for Celosia Sunday to reach the appropriate stem length is between 12 to 13 hours. Under short-day conditions provide daylength extension up to 13 hours to allow plants to elongate and to prevent early flowering. When daylength is over 13 hours, short-day treatments can be applied. Provide a dark period for a minimum of 12 hours for 5 to 6 weeks. Do not start short days until one week after planting.	288	6-8 plants/ft <sup>2</sup> (65-86 plants/m <sup>2</sup> ), 12-16 weeks	(day) 60-61°F (16°C) (night) 59°F (15°C) <b>Before flower development:</b> (day) 65-75°F (18-24°C) (night) 63-65°F (17-18°C)	28-40 in. (71-102 cm)	Celosia makes a taproot and is sensitive to root damage, which will result in early bud formation, deformed flowers and less uniformity. Therefore, plant before the plugs get rootbound. Maintain a constantly moist media, especially for the first 2 weeks after transplanting, to prevent premature flowering.
DELPHINIUM <i>Delphinium x belladonna</i> <b>Blue Donna</b>	Facultative Long Day	288		<b>Autumn:</b> (day) 63-68°F (17-20°C) (night) 53-58°F (12-14°C) <b>Spring:</b> (day) 65-68°F (18-20°C) (night) 53-58°F (12-14°C) <b>Summer:</b> (day) 65-68°F (18-20°C) (night) 53-58°F (12-14°C)	20-35 in. (51-89 cm)	Planting density: Annual greenhouse production = 12 to 16 plants/m <sup>2</sup> . Annual field production = 16 to 18 plants/m <sup>2</sup> . Perennial field production = 9 plants/m <sup>2</sup> . Do not pinch. Fertilize frequently with well-balanced fertilizer. Avoid ratio N:K larger than 2. Irrigation: overhead only first 4 to 6 weeks, then use drip. Needs medium to high irrigation, but keep plants dry and low RH. Prefers high light conditions. Cut stems 6 in. (15 cm) above ground to prevent Root Rot. Harvest when 25 to 30% of flowers are open. For annual cycle: from early transplant (January/February); first harvest after 12 to 15 weeks; then next 1 or 2 each 5 to 6 weeks later. Second and third harvests give best quality stems.

CLASS/SERIES	DAYLENGTH	RECOMMENDED PLUG SIZE	FINISHING PROGRAMS	GROWING ON TEMPERATURE (DAYS/NIGHTS)	STEM LENGTH	KEY TIPS
DELPHINIUM <i>Delphinium elatum</i> <b>Guardian F<sub>1</sub> Series</b>	Facultative Long Day	288	Autumn: 4 plants/ft <sup>2</sup> (43 plants/m <sup>2</sup> ), 13-16 weeks Spring: 4 plants/ft <sup>2</sup> (43 plants/m <sup>2</sup> ), 11-13 weeks Summer: 4 plants/ft <sup>2</sup> (43 plants/m <sup>2</sup> ), 11-13 weeks	<b>Autumn:</b> (day) 68-71°F (20-22°C) (night) 60-65°F (16-18°C) <b>Spring:</b> (day) 68-71°F (20-22°C) (night) 60-65°F (16-18°C) <b>Summer:</b> (day) 68-71°F (20-22°C) (night) 60-65°F (16-18°C)	30-39 in. (76-99 cm)	Autumn: greenhouse 13 weeks, field 16 weeks. Spring: greenhouse 11 weeks, field 13 weeks. Treat cut stems with an ethylene-inhibiting agent. 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.
DIANTHUS <i>Dianthus barbatus interspecific</i> <b>Amazon F<sub>1</sub> Series</b>	Facultative Long Day Best results are achieved when plants are grown in full sun or in a high-light greenhouse. The combination of high light with high heat will result in shorter stems.	288	Spring: 3-4 plants/ft <sup>2</sup> (32-43 plants/m <sup>2</sup> ), 12-18 weeks	<b>Before flower development:</b> (day) 60-72°F (16-22°C) (night) 50-60°F (10-16°C)	20-36 in. (51-91 cm)	Transplant directly into ground beds approximately 5 weeks after sowing, spacing 3 to 4 plants per net sq. ft. (approximately 30 to 40 plants per net sq. m). If main stem is pinched on Amazon dianthus, then space at 1.5 plants per net sq. ft. (approximately 15 plants per net sq. m). A single layer of support netting is recommended. A small percentage (3 to 5%) of early off-types can be observed with Amazon dianthus at 4 to 5 weeks from sowing. These plants should be removed/discarded at transplant.
DIANTHUS <i>Dianthus barbatus interspecific</i> <b>Bouquet F<sub>1</sub> Series</b>	Facultative Long Day	288	Spring: 3-4 plants/ft <sup>2</sup> (32-43 plants/m <sup>2</sup> ), 8-9 weeks	<b>Before flower development:</b> (day) 60-72°F (16-22°C) (night) 50-60°F (10-16°C)	18-30 in. (46-76 cm)	Can be transplanted year-round in coastal California or similar climates, where from mid-August to February, transplants will develop the best stem length. Greenhouse-grown plants generally produce taller stems than field-grown plants. Harvest stems with at least 3 open flowers.
DIANTHUS <i>Dianthus barbatus</i> <b>Sweet F<sub>1</sub> Series</b>	Facultative Long Day Best results are achieved when plants are grown in full sun or in a high-light greenhouse. The combination of high light with high heat will result in shorter stems.	288	Spring: 4-6 plants/ft <sup>2</sup> (43-65 plants/m <sup>2</sup> ), 11-15 weeks	<b>Before flower development:</b> (day) 60-72°F (16-22°C) (night) 50-60°F (10-16°C)	18-36 in. (46-91 cm)	Sweet dianthus can be transplanted year-round in coastal California or similar climates, where mid-August to February 1 transplants will develop the best stem length. Stem length for the Sweet series from transplants April to July may not be of sufficient length for commercial production depending on the environment. Greenhouse-grown plants generally produce taller stems than plants that are field-grown. Harvest stems with at least 3 open flowers. Plants can be harvested continuously for approximately 2 to 3 weeks. If cut back, a second flush of flowers will be ready to harvest in 8 to 10 weeks. Note: A second crop is only advisable from an Autumn harvest, so the second flush develops under the cooler conditions of late Autumn and Winter and builds stronger plants. A single layer of support netting is recommended.
GOMPHRENA <i>Gomphrena haageana</i> <b>QIS Series</b>		288	Spring: 1.5 plants/ft <sup>2</sup> (16 plants/m <sup>2</sup> ), 10-12 weeks	<b>Before flower development:</b> (day) 65-75°F (18-24°C) (night) 63-66°F (17-19°C)	24-26 in. (61-66 cm)	To increase productivity, the first blooms of the plants can be removed so that the secondaries will develop strongly.
LIMONIUM <i>Limonium sinuatum</i> <b>QIS Series</b>	Facultative Long Day	288	Spring: 1-2 plants/ft <sup>2</sup> (11-22 plants/m <sup>2</sup> ), 18-22 weeks	<b>Before flower development:</b> (day) 55-60°F (13-16°C) (night) 50-55°F (10-13°C)	30-35 in. (76-89 cm)	Popular series for both fresh and preserved cut flower production. Stiff stems do not require netting. They will flower slightly quicker if the plugs are subjected to vernalization before transplanting.
LISIANTHUS <i>Eustoma grandiflorum</i> <b>ABC F<sub>1</sub> Series</b>	Facultative Long Day Crop time is dependent on time of year, temperature, use of supplemental lighting and greenhouse conditions, in coordination with the Seasonality number being used. As a general guide, the time from transplant to harvest for the ABC series will be 16 weeks for Seasonality Number 1 varieties grown under short days, to 13 weeks for Seasonality Number 4 varieties grown under long days.  Reference the Seasonality Number Guide for ABC Lisianthus in the PanAmerican Seed Catalog.	406	Summer: 8 plants/ft <sup>2</sup> (86 plants/m <sup>2</sup> ), 10-12 weeks Winter: 6 plants/ft <sup>2</sup> (65 plants/m <sup>2</sup> ), 14-18 weeks	<b>Before flower development:</b> (day) 68-75°F (20-24°C) (night) 60-65°F (16-18°C)	29-45 in. (74-114 cm)	Full-sun plantings of cut flower lisianthus produce shorter stems than greenhouse-grown lisianthus.
LISIANTHUS <i>Eustoma grandiflorum</i> <b>Flare F<sub>1</sub> Series</b>	Facultative Long Day During Winter when daylength is shorter than 12 hours, supplemental light (incandescent or HID) can be used. Long-day (greater than 14 hours) or night interruption from 10 p.m. to 2 a.m. will accelerate flowering. HID light is preferred, as it increases flower quality and decreases crop time.	406	Summer: 8 plants/ft <sup>2</sup> (86 plants/m <sup>2</sup> ), 10-12 weeks Winter: 6 plants/ft <sup>2</sup> (65 plants/m <sup>2</sup> ), 14-18 weeks	<b>Before flower development:</b> (day) 68-75°F (20-24°C) (night) 60-65°F (16-18°C)	29-45 in. (74-114 cm)	Full-sun plantings of cut flower lisianthus produce shorter stems than greenhouse-grown lisianthus. Flare is a series of F <sub>1</sub> spray-type double-flowering lisianthus. They have a top-flowering habit, producing more flowers on top of each stem within a short flowering window, giving a bouquet effect. Flare series is Speed Group 2 (Mid/medium speed) for flowering speed. Crop time is dependent on time of year, temperature, daylength and light intensity, and also on supplemental lighting and greenhouse conditions.
MATRICARIA <i>Tanacetum parthenium</i> <b>Vegmo Series</b>	Obligate Long Day 16 hours of lighting is required for flower initiation.	288	Summer: 8 plants/ft <sup>2</sup> (86 plants/m <sup>2</sup> ), 7-10 weeks Winter: 7 plants/ft <sup>2</sup> (75 plants/m <sup>2</sup> ), 14-16 weeks	<b>Summer:</b> (day) 72-74°F (22-23°C) (night) 72-74°F (22-23°C) <b>Winter:</b> (day) 55-58°F (13-14°C) (night) 55-58°F (13-14°C)	28-36 in. (71-91 cm)	Supplemental lighting may be solid or cyclic. Matricaria are not sensitive to ethylene.
MATTHIOLA <i>Matthiola incana</i> <b>Aida Series</b>	Bred for specific seasonal performance, the PanAmerican Northern Greenhouse Selectable Matthiola assortment is an outstanding lineup for year-round production. Transplanting for seasons earlier than listed will result in later flowering.  Aida series is Spring Flowering, Group 2.	288	<b>Greenhouse:</b> Autumn: 6-7 plants/ft <sup>2</sup> (65-75 plants/m <sup>2</sup> ), 8-10 weeks Spring: 6-7 plants/ft <sup>2</sup> (65-75 plants/m <sup>2</sup> ), 10-11 weeks Summer: 6-7 plants/ft <sup>2</sup> (65-75 plants/m <sup>2</sup> ), 6-8 weeks Winter: 6 plants/ft <sup>2</sup> (65 plants/m <sup>2</sup> ), 12-14 weeks	(day) 50-62°F (10-17°C) (night) 50-62°F (10-17°C)	30-34 in. (76-86 cm)	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 to 5 days. At this point, seedlings of double-flowering plants will appear a pale green, while singles remain dark green. After removal from cold treatment, double-flowering seedlings will appear yellow and chlorotic within 1 to 2 days, while single-flowering seedlings remain robust and green. This cold treatment may only be done once to selectable matthiola plugs.
MATTHIOLA <i>Matthiola incana</i> <b>Column Stock Series</b>		Direct sow	<b>Field grown:</b> Winter: 20-22 weeks	<b>Before flower development:</b> (day) 55-65°F (13-18°C) (night) 55-60°F (13-16°C)	24-30 in. (61-76 cm)	Column stocks are non-selectable for doubleness. Supply one layer of support netting. Direct sow seed at 2.2 lbs./acre (1 kg/4,000 m <sup>2</sup> ). Optimum stem length will be achieved during cool growing periods. High heat can stunt plants or prevent flower spikes from developing.

CLASS/SERIES	DAYLENGTH	RECOMMENDED PLUG SIZE	FINISHING PROGRAMS	GROWING ON TEMPERATURE (DAYS/NIGHTS)	STEM LENGTH	KEY TIPS
MATTHIOLA <i>Matthiola incana</i> <b>Figaro Series</b>	Bred for specific seasonal performance, the PanAmerican Northern Greenhouse Selectable Matthiola assortment is an outstanding lineup for year-round production. Transplanting for seasons earlier than listed will result in later flowering.  Figaro series is Winter Flowering, Group 1.	288	<b>Greenhouse:</b> Autumn: 6-7 plants/ft <sup>2</sup> (65-75 plants/m <sup>2</sup> ), 8-10 weeks Spring: 6-7 plants/ft <sup>2</sup> (65-75 plants/m <sup>2</sup> ), 10-11 weeks Summer: 6-7 plants/ft <sup>2</sup> (65-75 plants/m <sup>2</sup> ), 6-8 weeks Winter: 6 plants/ft <sup>2</sup> (65 plants/m <sup>2</sup> ), 12-14 weeks	(day) 50-62°F (10-17°C) (night) 50-62°F (10-17°C)	30-34 in. (76-86 cm)	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 to 5 days. At this point, seedlings of double-flowering plants will appear a pale green, while singles remain dark green. After removal from cold treatment, double-flowering seedlings will appear yellow and chlorotic within 1 to 2 days, while single-flowering seedlings remain robust and green. This cold treatment may only be done once to selectable matthiola plugs.
MATTHIOLA <i>Matthiola incana</i> <b>Katz Series</b>		512	Autumn: 12 plants/ft <sup>2</sup> (129 plants/m <sup>2</sup> ), 7-11 weeks Spring: 12 plants/ft <sup>2</sup> (129 plants/m <sup>2</sup> ), 8-13 weeks	<b>Before flower development:</b> (day) 60-75°F (16-24°C) (night) 45-55°F (7-13°C)	32 in. (81 cm)	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 8 weeks from planting. Shorter days will slow the crop time, depending on the temperature, up to 13 weeks from planting. Best performance when grown in tunnels. Not recommended for selecting double-flowering plants at cotyledon stage.
MATTHIOLA <i>Matthiola incana</i> <b>Mathilda Series</b>	Bred for specific seasonal performance, the PanAmerican Northern Greenhouse Selectable Matthiola assortment is an outstanding lineup for year-round production. Transplanting for seasons earlier than listed will result in later flowering.  Mathilda series is Spring Flowering, Group 2.	288	<b>Greenhouse:</b> Autumn: 6-7 plants/ft <sup>2</sup> (65-75 plants/m <sup>2</sup> ), 8-10 weeks Spring: 6-7 plants/ft <sup>2</sup> (65-75 plants/m <sup>2</sup> ), 10-11 weeks Summer: 6-7 plants/ft <sup>2</sup> (65-75 plants/m <sup>2</sup> ), 6-8 weeks Winter: 6 plants/ft <sup>2</sup> (65 plants/m <sup>2</sup> ), 12-14 weeks	<b>Spring:</b> (day) 50-62°F (10-17°C) (night) 50-62°F (10-17°C)	30-34 in. (76-86 cm)	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 to 5 days. At this point, seedlings of double-flowering plants will appear a pale green, while singles remain dark green. After removal from cold treatment, double-flowering seedlings will appear yellow and chlorotic within 1 to 2 days, while single-flowering seedlings remain robust and green. This cold treatment may only be done once to selectable matthiola plugs.
MATTHIOLA <i>Matthiola incana</i> <b>Opera Series</b>	Bred for specific seasonal performance, the PanAmerican Northern Greenhouse Selectable Matthiola assortment is an outstanding lineup for year-round production. Transplanting for seasons earlier than listed will result in later flowering.  Opera series is Spring Flowering, Group 2.	288	<b>Greenhouse:</b> Autumn: 6-7 plants/ft <sup>2</sup> (65-75 plants/m <sup>2</sup> ), 8-10 weeks Spring: 6-7 plants/ft <sup>2</sup> (65-75 plants/m <sup>2</sup> ), 10-11 weeks Summer: 6-7 plants/ft <sup>2</sup> (65-75 plants/m <sup>2</sup> ), 6-8 weeks Winter: 6 plants/ft <sup>2</sup> (65 plants/m <sup>2</sup> ), 12-14 weeks	(day) 50-62°F (10-17°C) (night) 50-62°F (10-17°C)	30-34 in. (76-86 cm)	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 to 5 days. At this point, seedlings of double-flowering plants will appear a pale green, while singles remain dark green. After removal from cold treatment, double-flowering seedlings will appear yellow and chlorotic within 1 to 2 days, while single-flowering seedlings remain robust and green. This cold treatment may only be done once to selectable matthiola plugs.
SNAPDRAGON <i>Antirrhinum majus</i> <b>Cool F<sub>1</sub> Series</b>	Bred for specific seasonal performance, the PanAmerican Snapdragon assortment provides market-leading varieties for year-round production. Transplanting outside of recommended seasons is not recommended.  Cool Series is Winter/Early Spring Flowering, Group 1,2.	406	Winter: 6-10 plants/ft <sup>2</sup> (65-108 plants/m <sup>2</sup> ), 8-18 weeks	<b>Before flower development:</b> (day) 55-70°F (13-21°C) (night) 45-55°F (7-13°C)	39-60 in. (99-152 cm)	Group 1: Night: 45 to 50°F (7 to 10°C), Day: 50 to 55°F (10 to 13°C). 1,000 to 1,500 foot-candles. Group 2: Night: 50 to 55°F (10 to 13°C), Day: 55 to 60°F (13 to 16°C). 1,500 to 3,000 foot-candles.  Two support nets are the minimum, but three are preferred. Mesh sizes of 4 x 4 in. (10 x 10 cm) to 6 x 6 in. (15 x 15 cm) are most commonly used. Place the first level at 4 to 6 inches (10 to 15 cm) above the soil level. Place the second level at 6 in. (15 cm) above the first level. Raise the upper level of the support nets as the stems lengthen.
SNAPDRAGON <i>Antirrhinum majus</i> <b>Early Potomac® F<sub>1</sub> Series</b>	Bred for specific seasonal performance, the PanAmerican Snapdragon assortment provides market-leading varieties for year-round production. Transplanting outside of recommended seasons is not recommended.  Early Potomac Series is 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.	406	Summer: 6-10 plants/ft <sup>2</sup> (65-108 plants/m <sup>2</sup> ), 8-18 weeks	<b>Before flower development:</b> (day) 70-85°F (21-29°C) (night) 55-60°F (13-16°C)	39-60 in. (99-152 cm)	Group 3: Night: 55 to 60°F (13 to 16°C), Day: 60 to -65°F (16 to 18°C). 2,500 to 4,500 foot-candles. Group 4: Night: >60°F (>16°C), Day: >65°F (>18°C). 3,000 to 5,000 foot-candles.  Two support nets are the minimum, but three are preferred. Mesh sizes of 4 x 4 in. (10 x 10 cm) to 6 x 6 in. (15 x 15 cm) are most commonly used. Place the first level at 4 to 6 inches (10 to 15 cm) above the soil level. Place the second level at 6 in. (15 cm) above the first level. Raise the upper level of the support nets as the stems lengthen.
SNAPDRAGON <i>Antirrhinum majus</i> <b>Maryland F<sub>1</sub> Series</b>	Bred for specific seasonal performance, the PanAmerican Snapdragon assortment provides market-leading varieties for year-round production. Transplanting outside of recommended seasons is not recommended.  Maryland Series is Winter/Early Spring Flowering, Group 1,2.	406	Autumn: 6-10 plants/ft <sup>2</sup> (65-108 plants/m <sup>2</sup> ), 8-18 weeks Spring: 6-10 plants/ft <sup>2</sup> (65-108 plants/m <sup>2</sup> ), 8-18 weeks	<b>Before flower development:</b> (day) 55-70°F (13-21°C) (night) 45-55°F (7-13°C)	39-60 in. (99-152 cm)	Group 1: Night: 45 to 50°F (7 to 10°C), Day: 50 to 55°F (10 to 13°C). 1,000 to 1,500 foot-candles. Group 2: Night: 50 to 55°F (10 to 13°C), Day: 55 to 60°F (13 to 16°C). 1,500 to 3,000 foot-candles.  Two support nets are the minimum, but three are preferred. Mesh sizes of 4 x 4 in. (10 x 10 cm) to 6 x 6 in. (15 x 15 cm) are most commonly used. Place the first level at 4 to 6 inches (10 to 15 cm) above the soil level. Place the second level at 6 in. (15 cm) above the first level. Raise the upper level of the support nets as the stems lengthen.
SNAPDRAGON <i>Antirrhinum majus</i> <b>Monaco F<sub>1</sub> Series</b>	Bred for specific seasonal performance, the PanAmerican Snapdragon assortment provides market-leading varieties for year-round production. Transplanting outside of recommended seasons is not recommended.  Monaco Series is Group 2,3 and well-suited to difficult transition periods, between group 3,4 (Summer) to Group 1,2 (Autumn/Winter). Monaco tolerates warm Autumn conditions without flowering too quickly, and produces high-quality flower spikes when Autumn weather is unusually cool and dark. Performs well all year in areas with moderate temperatures and little daylength fluctuation.	406	Autumn: 6-10 plants/ft <sup>2</sup> (65-108 plants/m <sup>2</sup> ), 8-18 weeks Spring: 6-10 plants/ft <sup>2</sup> (65-108 plants/m <sup>2</sup> ), 8-18 weeks	<b>Before flower development:</b> (day) 60-75°F (16-24°C) (night) 52-57°F (11-14°C)	39-60 in. (99-152 cm)	Group 2: Night: 50 to 55°F (10 to 13°C), Day: 55 to 60°F (13 to 16°C). 1,500 to 3,000 foot-candles. Group 3: Night: 55 to 60°F (13 to 16°C), Day: 60 to 65°F (16 to 18°C). 2,500 to 4,500 foot-candles.  Two support nets are the minimum, but three are preferred. Mesh sizes of 4 x 4 in. (10 x 10 cm) to 6 x 6 in. (15 x 15 cm) are most commonly used. Place the first level at 4 to 6 inches (10 to 15 cm) above the soil level. Place the second level at 6 in. (15 cm) above the first level. Raise the upper level of the support nets as the stems lengthen.

CLASS/SERIES	DAYLENGTH	RECOMMENDED PLUG SIZE	FINISHING PROGRAMS	GROWING ON TEMPERATURE (DAYS/NIGHTS)	STEM LENGTH	KEY TIPS
SNAPDRAGON <i>Antirrhinum majus</i> <b>Potomac® F<sub>1</sub> Series</b>	Bred for specific seasonal performance, the PanAmerican Snapdragon assortment provides market-leading varieties for year-round production. Transplanting outside of recommended seasons is not recommended.  Potomac is 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.	406	Summer: 6-10 plants/ft <sup>2</sup> (65-108 plants/m <sup>2</sup> ), 8-18 weeks		<b>Summer:</b> (day) 70-85°F (21-29°C) (night) 60°F (16°C)	39-60 in. (99-152 cm)  Group 3: Night: 55 to 60°F (13 to 16°C), Day: 60 to 65°F (16 to 18°C). 2,500 to 4,500 foot-candles. Group 4: Night: >60°F (>16°C), Day: >65°F (>18°C). 3,000 to 5,000 foot-candles.  Two support nets are the minimum, but three are preferred. Mesh sizes of 4 x 4 in. (10 x 10 cm) to 6 x 6 in. (15 x 15 cm) are most commonly used. Place the first level at 4 to 6 inches (10 to 15 cm) above the soil level. Place the second level at 6 in. (15 cm) above the first level. Raise the upper level of the support nets as the stems lengthen.
SNAPDRAGON <i>Antirrhinum majus</i> <b>Purple Twist F<sub>1</sub></b>	Bred for specific seasonal performance, the PanAmerican Snapdragon assortment provides market-leading varieties for year-round production. Transplanting outside of recommended seasons is not recommended.  Purple Twist is Winter/Early Spring Flowering, Group 1,2.	406	Spring: 6-10 plants/ft <sup>2</sup> (65-108 plants/m <sup>2</sup> ), 8-18 weeks		<b>Before flower development:</b> (day) 55-70°F (13-21°C) (night) 50-55°F (10-13°C)	39-60 in. (99-152 cm)  Group 1: Night: 45 to 50°F (7 to 10°C), Day: 50 to 55°F (10 to 13°C). 1,000 to 1,500 foot-candles. Group 2: Night: 50 to 55°F (10 to 13°C), Day: 55 to 60°F (13 to 16°C). 1,500 to 3,000 foot-candles.  Two support nets are the minimum, but three are preferred. Mesh sizes of 4 x 4 in. (10 x 10 cm) to 6 x 6 in. (15 x 15 cm) are most commonly used. Place the first level at 4 to 6 inches (10 to 15 cm) above the soil level. Place the second level at 6 in. (15 cm) above the first level. Raise the upper level of the support nets as the stems lengthen.  Unique purple and white-striped colour pattern varies depending on growing environment. When grown in warmer greenhouse conditions, white stripes are more prominent; under cool outside/tunnel conditions, purple is more prominent. This unique novelty stand-alone Group 1,2 variety can be produced along with the Maryland series.
SNAPDRAGON <i>Antirrhinum majus</i> <b>Red Delilah F<sub>1</sub></b>	Bred for specific seasonal performance, the PanAmerican Snapdragon assortment provides market-leading varieties for year-round production. Transplanting outside of recommended seasons is not recommended.  Red Delilah is Winter/Early Spring Flowering, Group 1,2.	406	Spring: 6-10 plants/ft <sup>2</sup> (65-108 plants/m <sup>2</sup> ), 8-18 weeks Winter: 6-10 plants/ft <sup>2</sup> (65-108 plants/m <sup>2</sup> ), 8-18 weeks		<b>Before flower development:</b> (day) 55-70°F (13-21°C) (night) 50-55°F (10-13°C)	39-60 in. (99-152 cm)  Group 1: Night: 45 to 50°F (7 to 10°C), Day: 50 to 55°F (10 to 13°C). 1,000 to 1,500 foot-candles. Group 2: Night: 50 to 55°F (10 to 13°C), Day: 55 to 60°F (13 to 16°C). 1,500 to 3,000 foot-candles.  Two support nets are the minimum, but three are preferred. Mesh sizes of 4 x 4 in. (10 x 10 cm) to 6 x 6 in. (15 x 15 cm) are most commonly used. Place the first level at 4 to 6 inches (10 to 15 cm) above the soil level. Place the second level at 6 in. (15 cm) above the first level. Raise the upper level of the support nets as the stems lengthen.  Unique novelty stand-alone Group 1,2 variety features a flower spike with red and white tube flowers. It can be scheduled and grown along with the Maryland series.
SNAPDRAGON <i>Antirrhinum majus</i> <b>Rocket F<sub>1</sub> Series</b>		406	Spring: 3-4 plants/ft <sup>2</sup> (32-43 plants/m <sup>2</sup> ), 13-16 weeks		<b>Before flower development:</b> (day) 65-80°F (18-27°C) (night) 55-60°F (13-16°C)	30-36 in. (76-91 cm)  Versatile snapdragon can be used as both a landscape series and as a field-grown cut flower. Makes an excellent quality Group 3,4 Spring and Summer-flowering landscape snapdragon.  Group 3: Night: 55 to 60°F (13 to 16°C), Day: 60 to 65°F (16 to 18°C). 2,500 to 4,500 foot-candles. Group 4: Night: >60°F (>16°C), Day: >65°F (>18°C). 3,000 to 5,000 foot-candles.
SUNFLOWER <i>Helianthus annuus</i> <b>Jua F<sub>1</sub> Series</b>		288 Direct sow	Summer: 4-5 plants/ft <sup>2</sup> (43-54 plants/m <sup>2</sup> ), 8-11 weeks		<b>Before flower development:</b> (day) 65-85°F (18-29°C) (night) 50-65°F (10-18°C)	36-60 in. (91-152 cm)  Suitable for short and long-day conditions. Bred for best-quality flowers under long-day conditions.
TRACHELIUM <i>Trachelium caeruleum</i> <b>Lake Series</b>	Obligate Long Day Trachelium needs 16-hour daylength.	288	<b>Greenhouse:</b> 6-8 plants/ft <sup>2</sup> (65-86 plants/m <sup>2</sup> ), 10-18 weeks		<b>Autumn:</b> (day) 55°F (13°C) (night) 52°F (11°C) <b>Spring:</b> (day) 65°F (18°C) (night) 60°F (16°C) <b>Summer:</b> (day) 78°F (26°C) (night) 60-68°F (16-20°C) <b>Winter:</b> (day) 55°F (13°C) (night) 52°F (11°C)	30-42 in. (76-107 cm)  The greatest potential for year-round production in mild climates. Midseason flowering (transitional Group 3) series for mid-Winter to early-Spring transplants to yield late-Spring to early-Summer flowers. May also be transplanted late Summer to early Autumn for Autumn to early-Winter flowering.

**ANNUALS** PROPAGATION GUIDE P. 6 / FINISHING GUIDE P. 44  
**PERENNIALS** PROPAGATION GUIDE P. 82 / FINISHING GUIDE P. 96 / FORCING GUIDE P. 110  
**POT PLANTS** PROPAGATION GUIDE P. 114 / FINISHING GUIDE P. 128  
**CUT FLOWERS** PROPAGATION GUIDE P. 136 / FINISHING GUIDE P. 144

# handPicked

VEGETABLES & HERBS



CLASS/SERIES	SEED FORM	RECOMMENDED PLUG SIZE	PLUG CROP WEEKS	SEEDS/ CELL	COVER SEED	DAYS TO GERMINATE	INITIAL MEDIA PH/EC	STAGE 1	STAGE 2	STAGE 3	STAGE 4	KEY TIPS
CUCUMBER <i>Cucumis sativus</i> <b>Gherking F<sub>1</sub></b>	RAW	Direct sow 128	3-4 2-3	1-2 1	Yes	2-3	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 70-75°F (21-24°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 65-70°F (18-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 65-70°F (18-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 65-70°F (18-21°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	Best performance when directly sown into final container. Height can be controlled by withholding fertilizer, avoiding overwatering, growing under high light conditions and using DIF when possible.
CUCUMBER <i>Cucumis sativus</i> <b>Martini F<sub>1</sub></b>	RAW	Direct sow 128	3-4 2-3	1-2 1	Yes	2-3	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 70-75°F (21-24°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 65-70°F (18-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 65-70°F (18-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 65-70°F (18-21°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	Best performance when directly sown into final container. Height can be controlled by withholding fertilizer, avoiding overwatering, growing under high light conditions and using DIF when possible.
CUCUMBER <i>Cucumis sativus</i> <b>Patio Snacker F<sub>1</sub></b>	RAW	Direct sow 128	3-4 2-3	1-2 1	Yes	2-3	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 70-75°F (21-24°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 65-70°F (18-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 65-70°F (18-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 65-70°F (18-21°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	Best performance when directly sown into final container. Height can be controlled by withholding fertilizer, avoiding overwatering, growing under high light conditions and using DIF when possible.
EGGPLANT <i>Solanum melongena</i> <b>Gretel F<sub>1</sub></b>	RAW	288	5-6	1	Light cover	5-8	5.5-5.8 pH 0.5-0.75 mmhos/cm	(m) Level 4 (t) 70-75°F (21-24°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 70-75°F (21-24°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 65-70°F (18-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 62-65°F (17-18°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	Height can be controlled by withholding fertilizer, avoiding overwatering, growing under high light conditions and using DIF when possible. If necessary, uniconazole (Sumagic) at a rate of 2.5 to 5 ppm can be applied at 2 weeks after sowing for height control. Repeat 2 weeks later if needed.
EGGPLANT <i>Solanum melongena</i> <b>Hansel F<sub>1</sub></b>	RAW	288	5-6	1	Light cover	5-8	5.5-5.8 pH 0.5-0.75 mmhos/cm	(m) Level 4 (t) 70-75°F (21-24°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 70-75°F (21-24°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 65-70°F (18-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 62-65°F (17-18°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	Height can be controlled by withholding fertilizer, avoiding overwatering, growing under high light conditions and using DIF when possible. If necessary, uniconazole (Sumagic) at a rate of 2.5 to 5 ppm can be applied at 2 weeks after sowing for height control. Repeat 2 weeks later if needed.
EGGPLANT <i>Solanum melongena</i> <b>Patio Baby F<sub>1</sub></b>	RAW	288	5-6	1	Light cover	5-8	5.5-5.8 pH 0.5-0.75 mmhos/cm	(m) Level 4 (t) 70-75°F (21-24°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 70-75°F (21-24°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 65-70°F (18-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 62-65°F (17-18°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	Height can be controlled by withholding fertilizer, avoiding overwatering, growing under high light conditions and using DIF when possible. If necessary, uniconazole (Sumagic) at a rate of 2.5 to 5 ppm can be applied at 2 weeks after sowing for height control. Repeat 2 weeks later if needed.
HERB (BASIL) <i>Ocimum basilicum</i> <b>Dolce Fresca</b>	RAW	406	4-5	1-3	Yes	2-4	5.5-5.8 pH 0.75 mmhos/cm	(m) Level 4 (t) 68-74°F (20-23°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 65-70°F (18-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 65-70°F (18-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 62-65°F (17-18°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Can be directly sown into final container.
HERB (BASIL) <i>Ocimum basilicum</i> <b>Everleaf Genovese</b>	RAW	406	4-5	1-3	Yes	2-4	5.5-5.8 pH 0.75 mmhos/cm	(m) Level 4 (t) 68-74°F (20-23°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 65-70°F (18-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 65-70°F (18-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 62-65°F (17-18°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Can be directly sown into final container.
HERB (BASIL) <i>Ocimum basilicum</i> <b>Purple Ruffles</b>	RAW	406	4-5	1-3	Yes	2-4	5.5-5.8 pH 0.75 mmhos/cm	(m) Level 4 (t) 68-74°F (20-23°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 65-70°F (18-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 65-70°F (18-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 62-65°F (17-18°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Can be directly sown into final container.
HERB (BASIL) <i>Ocimum basilicum</i> <b>Sweet Dani Lemon</b>	RAW	406	4-5	1-3	Yes	2-4	5.5-5.8 pH 0.75 mmhos/cm	(m) Level 4 (t) 68-74°F (20-23°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 65-70°F (18-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 65-70°F (18-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 62-65°F (17-18°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Can be directly sown into final container.
HERB (DILL) <i>Anethum graveolens</i> <b>Fernleaf</b>	RAW	288	4-5	1-3	No	4-7	5.5-5.8 pH 0.75 mmhos/cm	(m) Level 4 (t) 68-72°F (20-22°C) (l) Light (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-72°F (20-22°C) (l) 500-1,000 f.c. (5,400-10,800 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 65-68°F (18-20°C) (l) 1,000-1,500 f.c. (10,800-16,100 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-3 (t) 62-65°F (17-18°C) (l) 1,500-2,000 f.c. (16,100-21,500 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	Can be directly sown into final container.



CLASS/SERIES	SEED FORM	RECOMMENDED PLUG SIZE	PLUG CROP WEEKS	SEEDS/ CELL	COVER SEED	DAYS TO GERMINATE	INITIAL MEDIA PH/EC	STAGE 1	STAGE 2	STAGE 3	STAGE 4	KEY TIPS
PEPPER <i>Capsicum baccatum</i> <b>Aji Rico F<sub>1</sub></b>	RAW	288	5-6	1	Light cover	5-7	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 70-78°F (21-26°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 65-70°F (18-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-4 (t) 62-67°F (17-19°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Height can be controlled by withholding fertilizer, avoiding overwatering, growing under high light conditions and using DIF when possible. If necessary, uniconazole (Sumagic) at rate of 2.5 to 5 ppm can be applied at 2 weeks after sowing for height control. Repeat 2 weeks later if needed.
PEPPER <i>Capsicum annuum</i> <b>Cajun Belle</b>	RAW	288	5-6	1	Light cover	5-7	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 70-78°F (21-26°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 65-70°F (18-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-4 (t) 62-67°F (17-19°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Height can be controlled by withholding fertilizer, avoiding overwatering, growing under high light conditions and using DIF when possible. If necessary, uniconazole (Sumagic) at rate of 2.5 to 5 ppm can be applied at 2 weeks after sowing for height control. Repeat 2 weeks later if needed.
PEPPER <i>Capsicum annuum</i> <b>Candy Cane Red F<sub>1</sub></b>	RAW	288	5-6	1	Light cover	5-7	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 70-78°F (21-26°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 65-70°F (18-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-4 (t) 62-67°F (17-19°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Height can be controlled by withholding fertilizer, avoiding overwatering, growing under high light conditions and using DIF when possible. If necessary, uniconazole (Sumagic) at rate of 2.5 to 5 ppm can be applied at 2 weeks after sowing for height control. Repeat 2 weeks later if needed.
PEPPER <i>Capsicum chinense</i> <b>Habanero Primero Red F<sub>1</sub></b>	RAW	288	5-6	1	Light cover	5-7	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 70-78°F (21-26°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-72°F (20-22°C) (l) 1,000-2,500 mol·m <sup>-2</sup> ·d <sup>-1</sup> (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 65-70°F (18-21°C) (l) 1,000-2,500 mol·m <sup>-2</sup> ·d <sup>-1</sup> (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-4 (t) 62-67°F (17-19°C) (l) 2,500-5,000 mol·m <sup>-2</sup> ·d <sup>-1</sup> (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Height can be controlled by withholding fertilizer, avoiding overwatering, growing under high light conditions and using DIF when possible. If necessary, uniconazole (Sumagic) at rate of 2.5 to 5 ppm can be applied at 2 weeks after sowing for height control. Repeat 2 weeks later if needed.
PEPPER <i>Capsicum annuum</i> <b>La Bomba II F<sub>1</sub></b>	RAW	288	5-6	1	Light cover	5-7	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 70-78°F (21-26°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 65-70°F (18-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-4 (t) 62-67°F (17-19°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Height can be controlled by withholding fertilizer, avoiding overwatering, growing under high light conditions and using DIF when possible. If necessary, uniconazole (Sumagic) at rate of 2.5 to 5 ppm can be applied at 2 weeks after sowing for height control. Repeat 2 weeks later if needed.
PEPPER <i>Capsicum baccatum</i> <b>Mad Hatter F<sub>1</sub></b>	RAW	288	5-6	1	Light cover	5-7	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 70-78°F (21-26°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 65-70°F (18-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-4 (t) 62-67°F (17-19°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Height can be controlled by withholding fertilizer, avoiding overwatering, growing under high light conditions and using DIF when possible. If necessary, uniconazole (Sumagic) at rate of 2.5 to 5 ppm can be applied at 2 weeks after sowing for height control. Repeat 2 weeks later if needed.
PEPPER <i>Capsicum annuum</i> <b>Snackabelle Red F<sub>1</sub></b>	RAW	288	5-6	1	Light cover	5-7	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 70-78°F (21-26°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-72°F (20-22°C) (l) 1,000-2,500 mol·m <sup>-2</sup> ·d <sup>-1</sup> (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 65-70°F (18-21°C) (l) 1,000-2,500 mol·m <sup>-2</sup> ·d <sup>-1</sup> (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-4 (t) 62-67°F (17-19°C) (l) 2,500-5,000 mol·m <sup>-2</sup> ·d <sup>-1</sup> (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Height can be controlled by withholding fertilizer, avoiding overwatering, growing under high light conditions and using DIF when possible. If necessary, uniconazole (Sumagic) at rate of 2.5 to 5 ppm can be applied at 2 weeks after sowing for height control. Repeat 2 weeks later if needed.
PEPPER <i>Capsicum annuum</i> <b>Sweet Heat F<sub>1</sub></b>	RAW	288	5-6	1	Light cover	5-7	5.5-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 70-78°F (21-26°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-4 (t) 65-70°F (18-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-4 (t) 62-67°F (17-19°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Height can be controlled by withholding fertilizer, avoiding overwatering, growing under high light conditions and using DIF when possible. Sweet Heat is naturally compact and should not need PGRs.
SIMPLYHERBS <i>Ocimum basilicum</i> <b>Basil</b>	PMPL	288	3-4	1	Yes	2-4	5.5-5.8 pH 0.75 mmhos/cm	(m) Level 4 (t) 68-74°F (20-23°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 65-70°F (18-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 65-70°F (18-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 62-65°F (17-18°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Can be directly sown into final container.

CLASS/SERIES	SEED FORM	RECOMMENDED PLUG SIZE	PLUG CROP WEEKS	SEEDS/ CELL	COVER SEED	DAYS TO GERMINATE	INITIAL MEDIA PH/EC	STAGE 1	STAGE 2	STAGE 3	STAGE 4	KEY TIPS
SIMPLYHERBS <i>Petroselinum crispum</i> <b>Curled Parsley</b>	PMPL	288	4-5	1	Yes	5-8	5.5-5.8 pH 0.5 mmhos/cm	(m) Level 4 (t) 68-70°F (20-21°C) (l) Light (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 65-70°F (18-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 65-70°F (18-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 62-65°F (17-18°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	Can be directly sown into final container.
SIMPLYHERBS <i>Anethum graveolens</i> <b>Dill</b>	PMPL	288	3-4	1	Yes	5-8	5.5-5.8 pH 0.75 mmhos/cm	(m) Level 4 (t) 68-72°F (20-22°C) (l) Light (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-72°F (20-22°C) (l) 500-1,000 f.c. (5,400-10,800 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 65-68°F (18-20°C) (l) 1,000-1,500 f.c. (10,800-16,100 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-3 (t) 62-65°F (17-18°C) (l) 1,500-2,000 f.c. (16,100-21,500 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	Can be directly sown into final container.
SIMPLYHERBS <i>Petroselinum crispum</i> <b>Large-Leaf Italian Flat Leaf Parsley</b>	PMPL	288	4-5	1	Yes	5-8	5.5-5.8 pH 0.5 mmhos/cm	(m) Level 4 (t) 68-70°F (20-21°C) (l) Light (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 65-70°F (18-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 62-65°F (17-18°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 60-62°F (16-17°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	Can be directly sown into final container.
SIMPLYHERBS <i>Origanum vulgare</i> <b>Oregano</b>	MPL	288	4-5	1	Yes	5-8	5.5-5.8 pH 0.75 mmhos/cm	(m) Level 4 (t) 68-70°F (20-21°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 62-65°F (17-18°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 62-65°F (17-18°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-3 (t) 60-62°F (16-17°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	Can be directly sown into final container.
SIMPLYHERBS <i>Rosmarinus officinalis</i> <b>Rosemary</b>	PMPL	288	4-5	1	Yes	5-8	5.5-5.8 pH 0.75 mmhos/cm	(m) Level 4 (t) 68-72°F (20-22°C) (l) Light (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-72°F (20-22°C) (l) 500-1,000 f.c. (5,400-10,800 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 65-68°F (18-20°C) (l) 1,000-1,500 f.c. (10,800-16,100 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-3 (t) 62-65°F (17-18°C) (l) 1,500-2,500 f.c. (16,100-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	Can be directly sown into final container.
SIMPLYHERBS <i>Salvia officinalis</i> <b>Sage</b>	PMPL	288	3-4	1	Yes	5-8	5.5-5.8 pH 0.75 mmhos/cm	(m) Level 4 (t) 68-70°F (20-21°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 65-70°F (18-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 62-65°F (17-18°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-3 (t) 62-65°F (17-18°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	Can be directly sown into final container.
SIMPLYHERBS <i>Thymus vulgaris</i> <b>Thyme</b>	PMPL	288	4-5	1	Yes	5-8	5.5-5.8 pH 0.75 mmhos/cm	(m) Level 4 (t) 68-70°F (20-21°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 65-70°F (18-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 62-65°F (17-18°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-3 (t) 62-65°F (17-18°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	Can be directly sown into final container.
SIMPLYHERBS <i>Ocimum basilicum</i> <b>Try Basil</b>	PMPL	288	3-4	1	Yes	2-4	5.5-5.8 pH 0.75 mmhos/cm	(m) Level 4 (t) 68-74°F (20-23°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 65-70°F (18-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 65-70°F (18-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 62-65°F (17-18°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Can be directly sown into final container.
SIMPLYSALAD® <b>Alfresco Mixture</b>	MPL	128	2-3	1	Light cover	2-3	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 65-73°F (18-23°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-70°F (20-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 65-70°F (18-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-3 (t) 62-64°F (17-18°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Total crop time can be reduced by 1 week by directly sowing into the final container.
SIMPLYSALAD® <i>Eruca sativa</i> <b>Arugula</b>	PMPL	128	2-3	1	Yes	1-2	5.5-5.8 pH 0.75 mmhos/cm	(m) Level 4 (t) 68-74°F (20-23°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 65-70°F (18-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 65-70°F (18-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 62-65°F (17-18°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Total crop time can be reduced by 1 week by directly sowing into the final container.
SIMPLYSALAD® <b>City Garden Mixture</b>	MPL	128	2-3	1	Light cover	2-3	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 65-73°F (18-23°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-70°F (20-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 65-70°F (18-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-3 (t) 62-64°F (17-18°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Total crop time can be reduced by 1 week by directly sowing into the final container.
SIMPLYSALAD® <i>Barbarea verna</i> <b>Cress</b>	PMPL	128	3-4	1	Yes	2-3	5.5-5.8 pH 0.75 mmhos/cm	(m) Level 4 (t) 68-74°F (20-23°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 65-70°F (18-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 65-70°F (18-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 62-65°F (17-18°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Total crop time can be reduced by 1 week by directly sowing into the final container.
SIMPLYSALAD® <b>Global Gourmet Mixture</b>	MPL	128	2-3	1	Light cover	2-3	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 65-73°F (18-23°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-70°F (20-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 65-70°F (18-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-3 (t) 62-64°F (17-18°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Total crop time can be reduced by 1 week by directly sowing into the final container.

CLASS/SERIES	SEED FORM	RECOMMENDED PLUG SIZE	PLUG CROP WEEKS	SEEDS/ CELL	COVER SEED	DAYS TO GERMINATE	INITIAL MEDIA PH/EC	STAGE 1	STAGE 2	STAGE 3	STAGE 4	KEY TIPS
SIMPLYSALAD® <i>Brassica oleracea</i> <b>Kale Storm Mixture</b>	PMPL	128	2-3	1	Light cover	2-3	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 65-73°F (18-23°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-70°F (20-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 65-70°F (18-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-3 (t) 62-64°F (17-18°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Total crop time can be reduced by 1 week by directly sowing into the final container. SimplySalad Kale Storm will develop darker colours in cool temperatures.
SIMPLYSALAD® <b>Summer Picnic Mixture</b>	MPL	128	2-3	1	Light cover	2-3	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 65-73°F (18-23°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-70°F (20-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 65-70°F (18-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-3 (t) 62-64°F (17-18°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Total crop time can be reduced by 1 week by directly sowing into the final container.
SIMPLYSALAD® <b>Wonder Wok Mixture</b>	MPL	128	2-3	1	Light cover	2-3	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 65-73°F (18-23°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-70°F (20-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 65-70°F (18-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	(m) Level 2-3 (t) 62-64°F (17-18°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N - 0.7 to 1.2 EC	Total crop time can be reduced by 1 week by directly sowing into the final container.
SQUASH <i>Cucurbita moschata</i> <b>Butterbaby</b>	RAW	Direct sow 128	3-4 2-3	1-2 1	Yes	2-4	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 70-75°F (21-24°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 65-70°F (18-21°C) (l) 1,000-2,500 mol·m <sup>-2</sup> ·d <sup>-1</sup> (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 65-70°F (18-21°C) (l) 1,000-2,500 mol·m <sup>-2</sup> ·d <sup>-1</sup> (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 65-70°F (18-21°C) (l) 2,500-5,000 mol·m <sup>-2</sup> ·d <sup>-1</sup> (f) Less than 100 ppm N - Less than 0.7 EC	Best performance when directly sown into final container. Height can be controlled by withholding fertilizer, avoiding overwatering, using DIF when possible and growing under high light conditions.
SQUASH <i>Cucurbita pepo</i> <b>Easy Pick F<sub>1</sub> Series</b>	RAW	Direct sow 128	3-4 2-3	1-2 1	Yes	2-4	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 70-75°F (21-24°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 65-70°F (18-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 65-70°F (18-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 65-70°F (18-21°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	Best performance when directly sown into final container. Height can be controlled by withholding fertilizer, avoiding overwatering, using DIF when possible and growing under high light conditions.
SQUASH <i>Cucurbita moschata</i> <b>Honeynut</b>	RAW	Direct sow 128	3-4 2-3	1-2 1	Yes	2-4	5.8-6.2 pH 0.75 mmhos/cm	(m) Level 4 (t) 70-75°F (21-24°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 65-70°F (18-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 65-70°F (18-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 65-70°F (18-21°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	Best performance when directly sown into final container. Height can be controlled by withholding fertilizer, avoiding overwatering, using DIF when possible and growing under high light conditions.
STRAWBERRY <i>Fragaria x ananassa</i> <b>Fresca</b>	RAW	288	4-5	1-2	Light cover	7-14	5.5-5.8 pH 0.75 mmhos/cm	(m) Level 3 (t) 68-70°F (20-21°C) (l) Light (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 68-70°F (20-21°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 65-68°F (18-20°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 60-62°F (16-17°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	Strawberry is susceptible to mildew. Use DIF whenever possible, especially the first 2 hours after sunrise, to control plant height.
TOMATO <i>Solanum lycopersicum</i> <b>Candyland Red</b>	RAW	288	4-5	1	Light cover	2-3	5.5-5.8 pH 0.5 mmhos/cm	(m) Level 4 (t) 70-75°F (21-24°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 65-68°F (18-20°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	Height can be controlled by withholding fertilizer, avoiding overwatering, growing under high light conditions and using DIF when possible. If necessary, uniconazole (Sumagic) at rate of 2.5 to 5 ppm can be applied at 2 weeks after sowing for height control. Repeat 2 weeks later if needed.
TOMATO <i>Solanum lycopersicum</i> <b>Chocolate Sprinkles F<sub>1</sub></b>	RAW	288	4-5	1	Light cover	2-3	5.5-5.8 pH 0.5 mmhos/cm	(m) Level 4 (t) 70-75°F (21-24°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 65-68°F (18-20°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	Height can be controlled by withholding fertilizer, avoiding overwatering, growing under high light conditions and using DIF when possible. If necessary, uniconazole (Sumagic) at rate of 2.5 to 5 ppm can be applied at 2 weeks after sowing for height control. Repeat 2 weeks later if needed.
TOMATO <i>Solanum lycopersicum</i> <b>Heirloom Marriage Big Brandy F<sub>1</sub></b>	RAW	288	4-5	1	Light cover	2-3	5.5-5.8 pH 0.5 mmhos/cm	(m) Level 4 (t) 70-75°F (21-24°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 65-68°F (18-20°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	Height can be controlled by withholding fertilizer, avoiding overwatering, growing under high light conditions and using DIF when possible. If necessary, uniconazole (Sumagic) at rate of 2.5 to 5 ppm can be applied at 2 weeks after sowing for height control. Repeat 2 weeks later if needed.
TOMATO <i>Solanum lycopersicum</i> <b>Heirloom Marriage Cherokee Carbon F<sub>1</sub></b>	RAW	288	4-5	1	Light cover	2-3	5.5-5.8 pH 0.5 mmhos/cm	(m) Level 4 (t) 70-75°F (21-24°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 65-68°F (18-20°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	Height can be controlled by withholding fertilizer, avoiding overwatering, growing under high light conditions and using DIF when possible. If necessary, uniconazole (Sumagic) at rate of 2.5 to 5 ppm can be applied at 2 weeks after sowing for height control. Repeat 2 weeks later if needed.

CLASS/SERIES	SEED FORM	RECOMMENDED PLUG SIZE	PLUG CROP WEEKS	SEEDS/ CELL	COVER SEED	DAYS TO GERMINATE	INITIAL MEDIA PH/EC	STAGE 1	STAGE 2	STAGE 3	STAGE 4	KEY TIPS
TOMATO <i>Solanum lycopersicum</i> <b>Heirloom Marriage Genuwine F<sub>1</sub></b>	RAW	288	4-5	1	Light cover	2-3	5.5-5.8 pH 0.5 mmhos/cm	(m) Level 4 (t) 70-75°F (21-24°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 65-68°F (18-20°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	Height can be controlled by withholding fertilizer, avoiding overwatering, growing under high light conditions and using DIF when possible. If necessary, uniconazole (Sumagic) at rate of 2.5 to 5 ppm can be applied at 2 weeks after sowing for height control. Repeat 2 weeks later if needed.
TOMATO <i>Solanum lycopersicum</i> <b>Heirloom Marriage Jersey Boy F<sub>1</sub></b>	RAW	288	4-5	1	Light cover	2-3	5.5-5.8 pH 0.5 mmhos/cm	(m) Level 4 (t) 70-75°F (21-24°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 65-68°F (18-20°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	Height can be controlled by withholding fertilizer, avoiding overwatering, growing under high light conditions and using DIF when possible. If necessary, uniconazole (Sumagic) at rate of 2.5 to 5 ppm can be applied at 2 weeks after sowing for height control. Repeat 2 weeks later if needed.
TOMATO <i>Solanum lycopersicum</i> <b>Heirloom Marriage Marziner F<sub>1</sub></b>	RAW	288	4-5	1	Light cover	2-3	5.5-5.8 pH 0.5 mmhos/cm	(m) Level 4 (t) 70-75°F (21-24°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 65-68°F (18-20°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	Height can be controlled by withholding fertilizer, avoiding overwatering, growing under high light conditions and using DIF when possible. If necessary, uniconazole (Sumagic) at rate of 2.5 to 5 ppm can be applied at 2 weeks after sowing for height control. Repeat 2 weeks later if needed.
TOMATO <i>Solanum lycopersicum</i> <b>Heirloom Marriage Perfect Flame F<sub>1</sub></b>	RAW	288	4-5	1	Light cover	2-3	5.5-5.8 pH 0.5 mmhos/cm	(m) Level 4 (t) 70-75°F (21-24°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 65-68°F (18-20°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	Height can be controlled by withholding fertilizer, avoiding overwatering, growing under high light conditions and using DIF when possible. If necessary, uniconazole (Sumagic) at rate of 2.5 to 5 ppm can be applied at 2 weeks after sowing for height control. Repeat 2 weeks later if needed.
TOMATO <i>Solanum lycopersicum</i> <b>Homeslice F<sub>1</sub></b>	RAW	288	4-5	1	Light cover	2-3	5.5-5.8 pH 0.5 mmhos/cm	(m) Level 4 (t) 70-75°F (21-24°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 65-68°F (18-20°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	Height can be controlled by withholding fertilizer, avoiding overwatering, growing under high light conditions and using DIF when possible. Homeslice is naturally compact and should not need PGRs.
TOMATO <i>Solanum lycopersicum</i> <b>Little Bing F<sub>1</sub></b>	RAW	288	4-5	1	Light cover	2-3	5.5-5.8 pH 0.5 mmhos/cm	(m) Level 4 (t) 70-75°F (21-24°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 65-68°F (18-20°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	Height can be controlled by withholding fertilizer, avoiding overwatering, growing under high light conditions and using DIF when possible. Little Bing is naturally compact and should not need PGRs.
TOMATO <i>Solanum lycopersicum</i> <b>Little Napoli F<sub>1</sub></b>	RAW	288	4-5	1	Light cover	2-3	5.5-5.8 pH 0.5 mmhos/cm	(m) Level 4 (t) 70-75°F (21-24°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 65-68°F (18-20°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	Height can be controlled by withholding fertilizer, avoiding overwatering, growing under high light conditions and using DIF when possible. Little Napoli is naturally compact and should not need PGRs.
TOMATO <i>Solanum lycopersicum</i> <b>Little Sicily F<sub>1</sub></b>	RAW	288	4-5	1	Light cover	2-3	5.5-5.8 pH 0.5 mmhos/cm	(m) Level 4 (t) 70-75°F (21-24°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 65-68°F (18-20°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	Height can be controlled by withholding fertilizer, avoiding overwatering, growing under high light conditions and using DIF when possible. Little Sicily is naturally compact and should not need PGRs.
TOMATO <i>Solanum lycopersicum</i> <b>Micro Tom</b>	RAW	288	4-5	1	Light cover	2-3	5.5-5.8 pH 0.5 mmhos/cm	(m) Level 4 (t) 70-75°F (21-24°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 65-68°F (18-20°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	Height can be controlled by withholding fertilizer, avoiding overwatering, growing under high light conditions and using DIF when possible. Micro Tom is naturally compact and should not need PGRs.
TOMATO <i>Solanum lycopersicum</i> <b>Midnight Snack F<sub>1</sub></b>	RAW	288	4-5	1	Light cover	2-3	5.5-5.8 pH 0.5 mmhos/cm	(m) Level 4 (t) 70-75°F (21-24°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 65-68°F (18-20°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	Height can be controlled by withholding fertilizer, avoiding overwatering, growing under high light conditions and using DIF when possible. If necessary, uniconazole (Sumagic) at rate of 2.5 to 5 ppm can be applied at 2 weeks after sowing for height control. Repeat 2 weeks later if needed.

CLASS/SERIES	SEED FORM	RECOMMENDED PLUG SIZE	PLUG CROP WEEKS	SEEDS/ CELL	COVER SEED	DAYS TO GERMINATE	INITIAL MEDIA PH/EC	STAGE 1	STAGE 2	STAGE 3	STAGE 4	KEY TIPS
TOMATO <i>Solanum lycopersicum</i> <b>Orange Zinger F<sub>1</sub></b>	RAW	288	4-5	1	Light cover	2-3	5.5-5.8 pH 0.5 mmhos/cm	(m) Level 4 (t) 70-75°F (21-24°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 65-68°F (18-20°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	Height can be controlled by withholding fertilizer, avoiding overwatering, growing under high light conditions and using DIF when possible. If necessary, uniconazole (Sumagic) at rate of 2.5 to 5 ppm can be applied at 2 weeks after sowing for height control. Repeat 2 weeks later if needed.
TOMATO <i>Solanum lycopersicum</i> <b>Stellar F<sub>1</sub></b>	RAW	288	4-5	1	Light cover	2-3	5.5-5.8 pH 0.5 mmhos/cm	(m) Level 4 (t) 70-75°F (21-24°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 65-68°F (18-20°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	Height can be controlled by withholding fertilizer, avoiding overwatering, growing under high light conditions and using DIF when possible. If necessary, uniconazole (Sumagic) at rate of 2.5 to 5 ppm can be applied at 2 weeks after sowing for height control. Repeat 2 weeks later if needed.
TOMATO <i>Solanum lycopersicum</i> <b>Sugar Rush F<sub>1</sub></b>	RAW	288	4-5	1	Light cover	2-3	5.5-5.8 pH 0.5 mmhos/cm	(m) Level 4 (t) 70-75°F (21-24°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 65-68°F (18-20°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	Height can be controlled by withholding fertilizer, avoiding overwatering, growing under high light conditions and using DIF when possible. If necessary, uniconazole (Sumagic) at rate of 2.5 to 5 ppm can be applied at 2 weeks after sowing for height control. Repeat 2 weeks later if needed.
TOMATO <i>Solanum lycopersicum</i> <b>Sunrise Sauce F<sub>1</sub></b>	RAW	288	4-5	1	Light cover	2-3	5.5-5.8 pH 0.5 mmhos/cm	(m) Level 4 (t) 70-75°F (21-24°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 65-68°F (18-20°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	Height can be controlled by withholding fertilizer, avoiding overwatering, growing under high light conditions and using DIF when possible. If necessary, uniconazole (Sumagic) at rate of 2.5 to 5 ppm can be applied at 2 weeks after sowing for height control. Repeat 2 weeks later if needed.
TOMATO <i>Solanum lycopersicum</i> <b>Tidy Rose F<sub>1</sub></b>	RAW	288	4-5	1	Light cover	2-3	5.5-5.8 pH 0.5 mmhos/cm	(m) Level 4 (t) 70-75°F (21-24°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 65-68°F (18-20°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	Height can be controlled by withholding fertilizer, avoiding overwatering, growing under high light conditions and using DIF when possible. If necessary, uniconazole (Sumagic) at rate of 2.5 to 5 ppm can be applied at 2 weeks after sowing for height control. Repeat 2 weeks later if needed.
TOMATO <i>Solanum lycopersicum</i> <b>Tidy Treats F<sub>1</sub></b>	RAW	288	4-5	1	Light cover	2-3	5.5-5.8 pH 0.5 mmhos/cm	(m) Level 4 (t) 70-75°F (21-24°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 65-68°F (18-20°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	Height can be controlled by withholding fertilizer, avoiding overwatering, growing under high light conditions and using DIF when possible. If necessary, uniconazole (Sumagic) at rate of 2.5 to 5 ppm can be applied at 2 weeks after sowing for height control. Repeat 2 weeks later if needed.
TOMATO <i>Solanum lycopersicum</i> <b>Topsy Tom F<sub>1</sub></b>	RAW	288	4-5	1	Light cover	2-3	5.5-5.8 pH 0.5 mmhos/cm	(m) Level 4 (t) 70-75°F (21-24°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 65-68°F (18-20°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	Height can be controlled by withholding fertilizer, avoiding overwatering, growing under high light conditions and using DIF when possible. Topsy Tom is naturally compact and should not need PGRs.
TOMATO <i>Solanum lycopersicum</i> <b>Tumbler F<sub>1</sub></b>	RAW	288	4-5	1	Light cover	2-3	5.5-5.8 pH 0.5 mmhos/cm	(m) Level 4 (t) 70-75°F (21-24°C) (l) Optional (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 3-4 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 68-72°F (20-22°C) (l) 1,000-2,500 f.c. (10,800-26,900 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	(m) Level 2-3 (t) 65-72°F (18-22°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) Less than 100 ppm N - Less than 0.7 EC	Height can be controlled by withholding fertilizer, avoiding overwatering, growing under high light conditions and using DIF when possible. Tumbler is naturally compact and should not need PGRs.

CLASS/SERIES	RECOMMENDED PLUG SIZE	GROWING ON TEMPERATURE (DAYS/NIGHTS)	TARGET MEDIA PH/EC	FINISHING PROGRAMS	KEY TIPS
CUCUMBER <i>Cucumis sativus</i> <b>Gherking F<sub>1</sub></b>	Direct sow 128	(day) 65-70°F (18-21°C) (night) 60-65°F (16-18°C)	5.8-6.2 pH 1.0 mmhos/cm	Cell Pack, 1-2 (ppp), 2-3 (weeks), Spring 4"/4.5"/Quart, 1-2 (ppp), 2-3 (weeks), Spring	Direct-sow into final container. Performs best when grown in-ground. Vining plants can be trained up a trellis to save garden space.
CUCUMBER <i>Cucumis sativus</i> <b>Martini F<sub>1</sub></b>	Direct sow 128	(day) 65-70°F (18-21°C) (night) 60-65°F (16-18°C)	5.8-6.2 pH 1.0 mmhos/cm	Cell Pack, 1-2 (ppp), 2-3 (weeks), Spring 4"/4.5"/Quart, 1-2 (ppp), 2-3 (weeks), Spring	Direct-sow into final container. Performs best when grown in-ground. Vining plants can be trained up a trellis to save garden space.
CUCUMBER <i>Cucumis sativus</i> <b>Patio Snacker F<sub>1</sub></b>	Direct sow 128	(day) 65-70°F (18-21°C) (night) 60-65°F (16-18°C)	5.8-6.2 pH 1.0 mmhos/cm	Cell Pack, 1-2 (ppp), 2-3 (weeks), Spring 4"/4.5"/Quart, 1-2 (ppp), 2-3 (weeks), Spring	Direct-sow into final container. Performs well in-ground and in containers. Vining plants can be trained up a trellis to save garden space.
EGGPLANT <i>Solanum melongena</i> <b>Gretel F<sub>1</sub></b>	288	(day) 60-70°F (16-21°C) (night) 55-60°F (13-16°C)	5.5-6.2 pH 1.0 mmhos/cm	Cell Pack, 1 (ppp), 4-5 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 4-5 (weeks), Spring 5"/6"/1 Gallon, 1 (ppp), 5-7 (weeks), Spring	Performs well in-ground and in containers, with or without support.
EGGPLANT <i>Solanum melongena</i> <b>Hansel F<sub>1</sub></b>	288	(day) 60-70°F (16-21°C) (night) 55-60°F (13-16°C)	5.5-6.2 pH 1.0 mmhos/cm	Cell Pack, 1 (ppp), 4-5 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 4-5 (weeks), Spring 5"/6"/1 Gallon, 1 (ppp), 5-7 (weeks), Spring	Performs well in-ground and in containers, with or without support.
EGGPLANT <i>Solanum melongena</i> <b>Patio Baby F<sub>1</sub></b>	288	(day) 60-70°F (16-21°C) (night) 55-60°F (13-16°C)	5.5-6.2 pH 1.0 mmhos/cm	Cell Pack, 1 (ppp), 4-5 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 4-5 (weeks), Spring 5"/6"/1 Gallon, 1 (ppp), 5-7 (weeks), Spring	Performs well in-ground and in containers.
HERB (BASIL) <i>Ocimum basilicum</i> <b>Dolce Fresca</b>	406	(day) 65-70°F (18-21°C) (night) 62-65°F (17-18°C)	5.5-6.2 pH 1.0 mmhos/cm	Cell Pack, 1 (ppp), 3-4 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 3-4 (weeks), Spring 5"/6"/1 Gallon, 1-3 (ppp), 4-5 (weeks), Spring	Seed can be directly sown into finish containers up to 4 in. (10 cm).
HERB (BASIL) <i>Ocimum basilicum</i> <b>Everleaf Genovese</b>	406	(day) 65-70°F (18-21°C) (night) 62-65°F (17-18°C)	5.5-6.2 pH 1.0 mmhos/cm	Cell Pack, 1 (ppp), 3-4 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 3-4 (weeks), Spring 5"/6"/1 Gallon, 1 (ppp), 4-5 (weeks), Spring	Approximately 30 to 45 days from transplant to harvest.
HERB (BASIL) <i>Ocimum basilicum</i> <b>Purple Ruffles</b>	406	(day) 65-70°F (18-21°C) (night) 62-65°F (17-18°C)	5.5-6.2 pH 1.0 mmhos/cm	Cell Pack, 1 (ppp), 3-4 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 3-4 (weeks), Spring 5"/6"/1 Gallon, 1-3 (ppp), 4-5 (weeks), Spring	Seed can be directly sown into finish containers up to 4 in. (10 cm).
HERB (BASIL) <i>Ocimum basilicum</i> <b>Sweet Dani Lemon</b>	406	(day) 65-70°F (18-21°C) (night) 62-65°F (17-18°C)	5.5-6.2 pH 1.0 mmhos/cm	Cell Pack, 1 (ppp), 3-4 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 3-4 (weeks), Spring 5"/6"/1 Gallon, 1-3 (ppp), 4-5 (weeks), Spring	Seed can be directly sown into finish containers up to 4 in. (10 cm).
HERB (DILL) <i>Anethum graveolens</i> <b>Fernleaf</b>	288	(day) 60-65°F (16-18°C) (night) 55-60°F (13-16°C)	5.5-6.2 pH 1.0 mmhos/cm	Cell Pack, 1 (ppp), 3-4 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 3-4 (weeks), Spring 5"/6"/1 Gallon, 1-3 (ppp), 4-5 (weeks), Spring	Seed can be directly sown into finish containers up to 4 in. (10 cm).
PEPPER <i>Capsicum baccatum</i> <b>Aji Rico F<sub>1</sub></b>	288	(day) 68-80°F (20-27°C) (night) 65-70°F (18-21°C)	5.5-6.2 pH 1.0 mmhos/cm	Cell Pack, 1 (ppp), 4-6 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 4-6 (weeks), Spring 5"/6"/1 Gallon, 1 (ppp), 5-7 (weeks), Spring	Large plant habit. Performs best when grown in-ground and with support.
PEPPER <i>Capsicum annuum</i> <b>Cajun Belle</b>	288	(day) 68-80°F (20-27°C) (night) 65-70°F (18-21°C)	5.5-6.2 pH 1.0 mmhos/cm	Cell Pack, 1 (ppp), 4-6 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 4-6 (weeks), Spring 5"/6"/1 Gallon, 1 (ppp), 5-7 (weeks), Spring	Performs well in-ground or in a medium container, with or without support.
PEPPER <i>Capsicum chinense</i> <b>Habanero Primero Red F<sub>1</sub></b>	288	(day) 68-80°F (20-27°C) (night) 65-70°F (18-21°C)	5.5-6.2 pH 1.0 mmhos/cm	Cell Pack, 1 (ppp), 4-6 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 4-6 (weeks), Spring 5"/6"/1 Gallon, 1 (ppp), 5-7 (weeks), Spring	Large habit. Performs best when grown in-ground and with support.
PEPPER <i>Capsicum annuum</i> <b>La Bomba II F<sub>1</sub></b>	288	(day) 68-80°F (20-27°C) (night) 65-70°F (18-21°C)	5.5-6.2 pH 1.0 mmhos/cm	Cell Pack, 1 (ppp), 4-6 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 4-6 (weeks), Spring 5"/6"/1 Gallon, 1 (ppp), 5-7 (weeks), Spring	Performs well in-ground or in a container, with or without support.
PEPPER <i>Capsicum baccatum</i> <b>Mad Hatter F<sub>1</sub></b>	288	(day) 68-80°F (20-27°C) (night) 65-70°F (18-21°C)	5.5-6.2 pH 1.0 mmhos/cm	Cell Pack, 1 (ppp), 4-6 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 4-6 (weeks), Spring 5"/6"/1 Gallon, 1 (ppp), 5-7 (weeks), Spring	Large habit. Performs best when grown in-ground and with support.
PEPPER <i>Capsicum annuum</i> <b>Snackabelle Red F<sub>1</sub></b>	288	(day) 68-80°F (20-27°C) (night) 65-70°F (18-21°C)	5.5-6.2 pH 1.0 mmhos/cm	Cell Pack, 1 (ppp), 4-6 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 4-6 (weeks), Spring 5"/6"/1 Gallon, 1 (ppp), 5-7 (weeks), Spring	Performs well in-ground or in a medium container, with or without support.
PEPPER <i>Capsicum annuum</i> <b>Sweet Heat F<sub>1</sub></b>	288	(day) 68-80°F (20-27°C) (night) 65-70°F (18-21°C)	5.5-6.2 pH 1.0 mmhos/cm	Cell Pack, 1 (ppp), 4-6 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 4-6 (weeks), Spring 5"/6"/1 Gallon, 1 (ppp), 5-7 (weeks), Spring	Performs very well in containers.

CLASS/SERIES	RECOMMENDED PLUG SIZE	GROWING ON TEMPERATURE (DAYS/NIGHTS)	TARGET MEDIA PH/EC	FINISHING PROGRAMS	KEY TIPS
SIMPLYHERBS <i>Ocimum basilicum</i> <b>Basil</b>	288	(day) 65-70°F (18-21°C) (night) 62-65°F (17-18°C)	5.5-6.2 pH 1.0 mmhos/cm	Cell Pack, 1 (ppp), 3-4 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 3-4 (weeks), Spring	Can be directly sown into final container.
SIMPLYHERBS <i>Petroselinum crispum</i> <b>Curled Parsley</b>	288	(day) 65-70°F (18-21°C) (night) 60-65°F (16-18°C)	5.5-6.2 pH 1.0 mmhos/cm	Cell Pack, 1 (ppp), 4-5 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 4-5 (weeks), Spring	Can be directly sown into final container.
SIMPLYHERBS <i>Anethum graveolens</i> <b>Dill</b>	288	(day) 60-65°F (16-18°C) (night) 55-60°F (13-16°C)	5.5-6.2 pH 1.0 mmhos/cm	Cell Pack, 1 (ppp), 3-4 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 3-4 (weeks), Spring	Can be directly sown into final container.
SIMPLYHERBS <i>Petroselinum crispum</i> <b>Large-Leaf Italian Flat Leaf Parsley</b>	288	(day) 65-70°F (18-21°C) (night) 60-65°F (16-18°C)	5.5-6.2 pH 1.0 mmhos/cm	Cell Pack, 1 (ppp), 4-5 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 4-5 (weeks), Spring	Can be directly sown into final container.
SIMPLYHERBS <i>Origanum vulgare</i> <b>Oregano</b>	288	(day) 60-65°F (16-18°C) (night) 50-55°F (10-13°C)	5.5-6.2 pH 1.0 mmhos/cm	Cell Pack, 1 (ppp), 3-4 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 4-5 (weeks), Spring	Can be directly sown into final container.
SIMPLYHERBS <i>Rosmarinus officinalis</i> <b>Rosemary</b>	288	(day) 60-65°F (16-18°C) (night) 55-60°F (13-16°C)	5.5-6.2 pH 1.0 mmhos/cm	Cell Pack, 1 (ppp), 4-5 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 4-5 (weeks), Spring	Can be directly sown into final container.
SIMPLYHERBS <i>Salvia officinalis</i> <b>Sage</b>	288	(day) 65-70°F (18-21°C) (night) 60-65°F (16-18°C)	5.5-6.2 pH 1.0 mmhos/cm	Cell Pack, 1 (ppp), 3-4 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 3-4 (weeks), Spring	Can be directly sown into final container.
SIMPLYHERBS <i>Thymus vulgaris</i> <b>Thyme</b>	288	(day) 65-70°F (18-21°C) (night) 55-60°F (13-16°C)	5.5-6.2 pH 1.0 mmhos/cm	Cell Pack, 1 (ppp), 4-5 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 4-5 (weeks), Spring	Can be directly sown into final container.
SIMPLYHERBS <i>Ocimum basilicum</i> <b>Try Basil</b>	288	(day) 65-70°F (18-21°C) (night) 62-65°F (17-18°C)	5.5-6.2 pH 1.0 mmhos/cm	Cell Pack, 1 (ppp), 3-4 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 3-4 (weeks), Spring	Can be directly sown into final container.
SIMPLYSALAD® <b>Alfresco Mixture</b>	128	(day) 62-70°F (17-21°C) (night) 56-61°F (13-16°C)	5.8-6.2 pH 0.75 mmhos/cm	4"/4.5"/Quart, 1 (ppp), 2-4 (weeks), Spring 8"/2 Gallon, 3-4 (ppp), 2-4 (weeks), Spring 10" Pot or HB/3 Gallon, 4-5 (ppp), 4-6 (weeks), Spring 12" Pot or HB/5 Gallon, 5-6 (ppp), 4-6 (weeks), Spring	Can be directly sown into final container. To achieve faster production with good foliage colour, SimplySalad can be grown at moderate to warm temperatures (55 to 70°F/13 to 21°C), and then finished at 45 to 55°F (7 to 13°C) for 3 to 5 days. Coloured varieties develop pigment very quickly at cooler temperatures.
SIMPLYSALAD® <i>Eruca sativa</i> <b>Arugula</b>	128	(day) 62-70°F (17-21°C) (night) 56-61°F (13-16°C)	5.8-6.2 pH 0.75 mmhos/cm	4"/4.5"/Quart, 1 (ppp), 2-3 (weeks), Spring 8"/2 Gallon, 3-4 (ppp), 2-4 (weeks), Spring 10" Pot or HB/3 Gallon, 4-5 (ppp), 4-6 (weeks), Spring 12" Pot or HB/5 Gallon, 5-6 (ppp), 4-6 (weeks), Spring	Can be directly sown into final container. 30 to 45 days from transplant to harvest.
SIMPLYSALAD® <b>City Garden Mixture</b>	128	(day) 62-70°F (17-21°C) (night) 56-61°F (13-16°C)	5.8-6.2 pH 0.75 mmhos/cm	4"/4.5"/Quart, 1 (ppp), 2-4 (weeks), Spring 8"/2 Gallon, 3-4 (ppp), 2-4 (weeks), Spring 10" Pot or HB/3 Gallon, 4-5 (ppp), 4-6 (weeks), Spring 12" Pot or HB/5 Gallon, 5-6 (ppp), 4-6 (weeks), Spring	Can be directly sown into final container. To achieve faster production with good foliage colour, SimplySalad can be grown at moderate to warm temperatures (55 to 70°F/13 to 21°C), and then finished at 45 to 55°F (7 to 13°C) for 3 to 5 days. Coloured varieties develop pigment very quickly at cooler temperatures.
SIMPLYSALAD® <i>Barbarea verna</i> <b>Cress</b>	128	(day) 62-70°F (17-21°C) (night) 56-61°F (13-16°C)	5.8-6.2 pH 0.75 mmhos/cm	4"/4.5"/Quart, 1 (ppp), 3-4 (weeks), Spring 8"/2 Gallon, 3-4 (ppp), 3-4 (weeks), Spring 10" Pot or HB/3 Gallon, 4-5 (ppp), 5-6 (weeks), Spring 12" Pot or HB/5 Gallon, 5-6 (ppp), 5-6 (weeks), Spring	Can be directly sown into final container. 40 to 60 days from transplant to harvest.
SIMPLYSALAD® <b>Global Gourmet Mixture</b>	128	(day) 62-70°F (17-21°C) (night) 56-61°F (13-16°C)	5.8-6.2 pH 0.75 mmhos/cm	4"/4.5"/Quart, 1 (ppp), 2-4 (weeks), Spring 8"/2 Gallon, 3-4 (ppp), 2-4 (weeks), Spring 10" Pot or HB/3 Gallon, 4-5 (ppp), 4-6 (weeks), Spring 12" Pot or HB/5 Gallon, 5-6 (ppp), 4-6 (weeks), Spring	Can be directly sown into final container. To achieve faster production with good foliage colour, SimplySalad can be grown at moderate to warm temperatures (55 to 70°F/13 to 21°C), and then finished at 45 to 55°F (7 to 13°C) for 3 to 5 days. Coloured varieties develop pigment very quickly at cooler temperatures.
SIMPLYSALAD® <i>Brassica oleracea</i> <b>Kale Storm Mixture</b>	128	(day) 62-70°F (17-21°C) (night) 56-61°F (13-16°C)	5.8-6.2 pH 0.75 mmhos/cm	4"/4.5"/Quart, 1 (ppp), 2-4 (weeks), Spring 8"/2 Gallon, 3-4 (ppp), 2-4 (weeks), Spring 10" Pot or HB/3 Gallon, 4-5 (ppp), 4-6 (weeks), Spring 12" Pot or HB/5 Gallon, 5-6 (ppp), 4-6 (weeks), Spring	Can be directly sown into final container. To achieve faster production with good foliage colour, SimplySalad can be grown at moderate to warm temperatures (55 to 70°F/13 to 21°C), and then finished at 45 to 55°F (7 to 13°C) for 3 to 5 days. Coloured varieties develop pigment very quickly at cooler temperatures. Can be grown in-ground after transplant stage.

CLASS/SERIES	RECOMMENDED PLUG SIZE	GROWING ON TEMPERATURE (DAYS/NIGHTS)	TARGET MEDIA PH/EC	FINISHING PROGRAMS	KEY TIPS
SIMPLYSALAD® <b>Summer Picnic Mixture</b>	128	(day) 62-70°F (17-21°C) (night) 56-61°F (13-16°C)	5.8-6.2 pH 0.75 mmhos/cm	4"/4.5"/Quart, 1 (ppp), 2-4 (weeks), Spring 8"/2 Gallon, 3-4 (ppp), 2-4 (weeks), Spring 10" Pot or HB/3 Gallon, 4-5 (ppp), 4-6 (weeks), Spring 12" Pot or HB/5 Gallon, 5-6 (ppp), 4-6 (weeks), Spring	Can be directly sown into final container. To achieve faster production with good foliage colour, SimplySalad can be grown at moderate to warm temperatures (55 to 70°F/13 to 21°C), and then finished at 45 to 55°F (7 to 13°C) for 3 to 5 days. Coloured varieties develop pigment very quickly at cooler temperatures.
SIMPLYSALAD® <b>Wonder Wok Mixture</b>	128	(day) 62-70°F (17-21°C) (night) 56-61°F (13-16°C)	5.8-6.2 pH 0.75 mmhos/cm	4"/4.5"/Quart, 1 (ppp), 2-4 (weeks), Spring 8"/2 Gallon, 3-4 (ppp), 2-4 (weeks), Spring 10" Pot or HB/3 Gallon, 4-5 (ppp), 4-6 (weeks), Spring 12" Pot or HB/5 Gallon, 5-6 (ppp), 4-6 (weeks), Spring	Can be directly sown into final container. To achieve faster production with good foliage colour, SimplySalad can be grown at moderate to warm temperatures (55 to 70°F/13 to 21°C), and then finished at 45 to 55°F (7 to 13°C) for 3 to 5 days. Coloured varieties develop pigment very quickly at cooler temperatures.
SQUASH <i>Cucurbita moschata</i> <b>Butterbaby</b>	Direct sow 128	(day) 68-72°F (20-22°C) (night) 60-65°F (16-18°C)	5.8-6.2 pH 0.75-1.0 mmhos/cm	Cell Pack, 1-2 (ppp), 2-3 (weeks), Spring 4"/4.5"/Quart, 1-2 (ppp), 2-3 (weeks), Spring	Direct-sow into final container. Performs best when grown in-ground. Vining plants can be trained up a trellis to save garden space.
SQUASH <i>Cucurbita pepo</i> <b>Easy Pick F<sub>1</sub> Series</b>	Direct sow 128	(day) 68-72°F (20-22°C) (night) 60-65°F (16-18°C)	5.8-6.2 pH 0.75-1.0 mmhos/cm	Cell Pack, 1-2 (ppp), 2-3 (weeks), Spring 4"/4.5"/Quart, 1-2 (ppp), 2-3 (weeks), Spring	Direct-sow into final container. Performs best when grown in-ground.
SQUASH <i>Cucurbita moschata</i> <b>Honeynut</b>	Direct sow 128	(day) 68-72°F (20-22°C) (night) 60-65°F (16-18°C)	5.8-6.2 pH 0.75-1.0 mmhos/cm	Cell Pack, 1-2 (ppp), 2-3 (weeks), Spring 4"/4.5"/Quart, 1-2 (ppp), 2-3 (weeks), Spring	Direct-sow into final container. Performs best when grown in-ground. Vining plants can be trained up a trellis to save garden space.
STRAWBERRY <i>Fragaria x ananassa</i> <b>Fresca</b>	288	(day) 60-65°F (16-18°C) (night) 60-62°F (16-17°C)	6.5-7.5 pH 1.0 mmhos/cm	Cell Pack, 1 (ppp), 6-8 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 8-10 (weeks), Spring 8"/2 Gallon, 3-4 (ppp), 10-12 (weeks), Spring	Susceptible to mildew.
TOMATO <i>Solanum lycopersicum</i> <b>Candyland Red</b>	288	(day) 65-70°F (18-21°C) (night) 62-65°F (17-18°C)	5.5-6.2 pH 0.75-1.0 mmhos/cm	Cell Pack, 1 (ppp), 2-4 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 2-4 (weeks), Spring 5"/6"/1 Gallon, 1 (ppp), 4-6 (weeks), Spring	Indeterminate variety. Performs best when grown in-ground and with support.
TOMATO <i>Solanum lycopersicum</i> <b>Chocolate Sprinkles F<sub>1</sub></b>	288	(day) 65-70°F (18-21°C) (night) 62-65°F (17-18°C)	5.5-6.2 pH 0.75-1.0 mmhos/cm	Cell Pack, 1 (ppp), 2-4 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 2-4 (weeks), Spring 5"/6"/1 Gallon, 1 (ppp), 4-6 (weeks), Spring	Indeterminate variety. Performs best when grown in-ground and with support.
TOMATO <i>Solanum lycopersicum</i> <b>Heirloom Marriage Big Brandy F<sub>1</sub></b>	288	(day) 65-70°F (18-21°C) (night) 62-65°F (17-18°C)	5.5-6.2 pH 0.75-1.0 mmhos/cm	Cell Pack, 1 (ppp), 2-4 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 2-4 (weeks), Spring 5"/6"/1 Gallon, 1 (ppp), 4-6 (weeks), Spring	Indeterminate variety. Performs best when grown in-ground and with support.
TOMATO <i>Solanum lycopersicum</i> <b>Heirloom Marriage Cherokee Carbon F<sub>1</sub></b>	288	(day) 65-70°F (18-21°C) (night) 62-65°F (17-18°C)	5.5-6.2 pH 0.75-1.0 mmhos/cm	Cell Pack, 1 (ppp), 2-4 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 2-4 (weeks), Spring 5"/6"/1 Gallon, 1 (ppp), 4-6 (weeks), Spring	Indeterminate variety. Performs best when grown in-ground and with support.
TOMATO <i>Solanum lycopersicum</i> <b>Heirloom Marriage Genuwine F<sub>1</sub></b>	288	(day) 65-70°F (18-21°C) (night) 62-65°F (17-18°C)	5.5-6.2 pH 0.75-1.0 mmhos/cm	Cell Pack, 1 (ppp), 2-4 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 2-4 (weeks), Spring 5"/6"/1 Gallon, 1 (ppp), 4-6 (weeks), Spring	Indeterminate variety. Performs best when grown in-ground and with support.
TOMATO <i>Solanum lycopersicum</i> <b>Heirloom Marriage Jersey Boy F<sub>1</sub></b>	288	(day) 65-70°F (18-21°C) (night) 62-65°F (17-18°C)	5.5-6.2 pH 0.75-1.0 mmhos/cm	Cell Pack, 1 (ppp), 2-4 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 2-4 (weeks), Spring 5"/6"/1 Gallon, 1 (ppp), 4-6 (weeks), Spring	Indeterminate variety. Performs best when grown in-ground and with support.
TOMATO <i>Solanum lycopersicum</i> <b>Heirloom Marriage Marziner F<sub>1</sub></b>	288	(day) 65-70°F (18-21°C) (night) 62-65°F (17-18°C)	5.5-6.2 pH 0.75-1.0 mmhos/cm	Cell Pack, 1 (ppp), 2-4 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 2-4 (weeks), Spring 5"/6"/1 Gallon, 1 (ppp), 4-6 (weeks), Spring	Indeterminate variety. Performs best when grown in-ground and with support.
TOMATO <i>Solanum lycopersicum</i> <b>Heirloom Marriage Perfect Flame F<sub>1</sub></b>	288	(day) 65-70°F (18-21°C) (night) 62-65°F (17-18°C)	5.5-6.2 pH 0.75-1.0 mmhos/cm	Cell Pack, 1 (ppp), 2-4 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 2-4 (weeks), Spring 5"/6"/1 Gallon, 1 (ppp), 4-6 (weeks), Spring	Indeterminate variety. Performs best when grown in-ground and with support.
TOMATO <i>Solanum lycopersicum</i> <b>Homeslice F<sub>1</sub></b>	288	(day) 65-70°F (18-21°C) (night) 62-65°F (17-18°C)	5.5-6.2 pH 0.75-1.0 mmhos/cm	Cell Pack, 1 (ppp), 2-4 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 2-4 (weeks), Spring 5"/6"/1 Gallon, 1 (ppp), 4-6 (weeks), Spring	Determinate variety. Performs well in a patio planter or in-ground. Best grown with support.
TOMATO <i>Solanum lycopersicum</i> <b>Little Bing F<sub>1</sub></b>	288	(day) 65-70°F (18-21°C) (night) 62-65°F (17-18°C)	5.5-6.2 pH 0.75-1.0 mmhos/cm	Cell Pack, 1 (ppp), 2-4 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 2-4 (weeks), Spring 5"/6"/1 Gallon, 1 (ppp), 4-6 (weeks), Spring 12" Pot or HB/5 Gallon, 1 (ppp), 6-8 (weeks), Late Spring	Compact, determinate variety. Excellent performance in a patio planter, with or without support.



CLASS/SERIES	RECOMMENDED PLUG SIZE	GROWING ON TEMPERATURE (DAYS/NIGHTS)	TARGET MEDIA PH/EC	FINISHING PROGRAMS	KEY TIPS
TOMATO <i>Solanum lycopersicum</i> <b>Little Napoli F<sub>1</sub></b>	288	(day) 65-70°F (18-21°C) (night) 62-65°F (17-18°C)	5.5-6.2 pH 0.75-1.0 mmhos/cm	Cell Pack, 1 (ppp), 2-4 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 2-4 (weeks), Spring 5"/6"/1 Gallon, 1 (ppp), 4-6 (weeks), Spring 12" Pot or HB/5 Gallon, 1 (ppp), 6-8 (weeks), Late Spring	Compact, determinate variety. Excellent performance in a patio planter, with or without support.
TOMATO <i>Solanum lycopersicum</i> <b>Little Sicily F<sub>1</sub></b>	288	(day) 65-70°F (18-21°C) (night) 62-65°F (17-18°C)	5.5-6.2 pH 0.75-1.0 mmhos/cm	Cell Pack, 1 (ppp), 2-4 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 2-4 (weeks), Spring 5"/6"/1 Gallon, 1 (ppp), 4-6 (weeks), Spring 12" Pot or HB/5 Gallon, 1 (ppp), 6-8 (weeks), Late Spring	Compact, determinate variety. Excellent performance in a patio planter, with or without support.
TOMATO <i>Solanum lycopersicum</i> <b>Micro Tom</b>	288	(day) 65-70°F (18-21°C) (night) 62-65°F (17-18°C)	5.5-6.2 pH 0.75-1.0 mmhos/cm	Cell Pack, 1 (ppp), 2-4 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 2-4 (weeks), Spring 5"/6"/1 Gallon, 1 (ppp), 4-6 (weeks), Spring	Compact, determinate variety. Performs best in small containers.
TOMATO <i>Solanum lycopersicum</i> <b>Midnight Snack F<sub>1</sub></b>	288	(day) 65-70°F (18-21°C) (night) 62-65°F (17-18°C)	5.5-6.2 pH 0.75-1.0 mmhos/cm	Cell Pack, 1 (ppp), 2-4 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 2-4 (weeks), Spring 5"/6"/1 Gallon, 1 (ppp), 4-6 (weeks), Spring	Indeterminate variety. Performs best when grown in-ground and with support.
TOMATO <i>Solanum lycopersicum</i> <b>Orange Zinger F<sub>1</sub></b>	288	(day) 65-70°F (18-21°C) (night) 62-65°F (17-18°C)	5.5-6.2 pH 0.75-1.0 mmhos/cm	Cell Pack, 1 (ppp), 2-4 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 2-4 (weeks), Spring 5"/6"/1 Gallon, 1 (ppp), 4-6 (weeks), Spring	Indeterminate variety. Performs best when grown in-ground and with support.
TOMATO <i>Solanum lycopersicum</i> <b>Stellar F<sub>1</sub></b>	288	(day) 65-70°F (18-21°C) (night) 62-65°F (17-18°C)	5.5-6.2 pH 0.75-1.0 mmhos/cm	Cell Pack, 1 (ppp), 2-4 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 2-4 (weeks), Spring 5"/6"/1 Gallon, 1 (ppp), 4-6 (weeks), Spring	Determinate variety. Performs best when grown in-ground and with support.
TOMATO <i>Solanum lycopersicum</i> <b>Sugar Rush F<sub>1</sub></b>	288	(day) 65-70°F (18-21°C) (night) 62-65°F (17-18°C)	5.5-6.2 pH 0.75-1.0 mmhos/cm	Cell Pack, 1 (ppp), 2-4 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 2-4 (weeks), Spring 5"/6"/1 Gallon, 1 (ppp), 4-6 (weeks), Spring	Indeterminate variety. Performs best when grown in-ground and with support.
TOMATO <i>Solanum lycopersicum</i> <b>Sunrise Sauce F<sub>1</sub></b>	288	(day) 65-70°F (18-21°C) (night) 62-65°F (17-18°C)	5.5-6.2 pH 0.75-1.0 mmhos/cm	Cell Pack, 1 (ppp), 2-4 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 2-4 (weeks), Spring 5"/6"/1 Gallon, 1 (ppp), 4-6 (weeks), Spring	Determinate variety. Performs best when grown in-ground and with support.
TOMATO <i>Solanum lycopersicum</i> <b>Tidy Rose F<sub>1</sub></b>	288	(day) 65-70°F (18-21°C) (night) 62-65°F (17-18°C)	5.5-6.2 pH 0.75-1.0 mmhos/cm	Cell Pack, 1 (ppp), 2-4 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 2-4 (weeks), Spring 5"/6"/1 Gallon, 1 (ppp), 4-6 (weeks), Spring 14" Pot or HB/7 Gallon, 1 (ppp), 6-8 (weeks), Late Spring	Compact, indeterminate variety. Performs well in a patio planter or in-ground and with support.
TOMATO <i>Solanum lycopersicum</i> <b>Tidy Treats F<sub>1</sub></b>	288	(day) 65-70°F (18-21°C) (night) 62-65°F (17-18°C)	5.5-6.2 pH 0.75-1.0 mmhos/cm	Cell Pack, 1 (ppp), 2-4 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 2-4 (weeks), Spring 5"/6"/1 Gallon, 1 (ppp), 4-6 (weeks), Spring 14" Pot or HB/7 Gallon, 1 (ppp), 6-8 (weeks), Late Spring	Compact, indeterminate variety. Performs well in a patio planter or in-ground and with support.
TOMATO <i>Solanum lycopersicum</i> <b>Topsy Tom F<sub>1</sub></b>	288	(day) 65-70°F (18-21°C) (night) 62-65°F (17-18°C)	5.5-6.2 pH 0.75-1.0 mmhos/cm	Cell Pack, 1 (ppp), 2-4 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 2-4 (weeks), Spring 5"/6"/1 Gallon, 1 (ppp), 4-6 (weeks), Spring 12" Pot or HB/5 Gallon, 1 (ppp), 6-8 (weeks), Late Spring	Superior variety for hanging baskets and patio planters. Performs well when grown upside-down.
TOMATO <i>Solanum lycopersicum</i> <b>Tumbler F<sub>1</sub></b>	288	(day) 65-70°F (18-21°C) (night) 62-65°F (17-18°C)	5.5-6.2 pH 0.75-1.0 mmhos/cm	Cell Pack, 1 (ppp), 2-4 (weeks), Spring 4"/4.5"/Quart, 1 (ppp), 2-4 (weeks), Spring 5"/6"/1 Gallon, 1 (ppp), 4-6 (weeks), Spring 12" Pot or HB/5 Gallon, 1 (ppp), 6-8 (weeks), Late Spring	Superior variety for hanging baskets and patio planters. Cascading habit. Performs well when grown without support.



## Abutilon

Bella Series ..... 6, 44

## Ageratum

High Tide® F1 Series ..... 6, 44

## Alternanthera

Purple Knight ..... 6, 44  
Purple Prince ..... 6, 44

## Alyssum

Clear Crystal® Series ..... 6, 44  
Easter Bonnet Series ..... 6, 44  
Snow Crystals ..... 6, 44

## Anemone

Mona Lisa® Series ..... 136, 144

## Angelonia

Serena® F1 Series ..... 6, 44  
Serenita® F1 Series ..... 6, 44

## Aquilegia

Clementine Series ..... 82, 96  
Songbird F1 Series ..... 82, 96  
Swan F1 Series ..... 82, 96  
Winky Double Series ..... 82, 96  
Winky Single Series ..... 82, 96

## Arabis

Spring Charm ..... 82, 96

## Armeria

Ballerina Series ..... 82, 96

## Asclepias

Silky Series ..... 136, 144

## Aster

Pot 'N Patio Series ..... 6, 44

## Bacopa

Blutopia® F1 ..... 6, 44  
Snowtopia® F1 ..... 6, 44

## Begonia

BabyWing® F1 Series ..... 8, 44  
Dragon Wing® F1 Series ..... 8, 44  
Gryphon ..... 8, 46  
Megawatt F1 Series ..... 8, 46

## Bellis

Bellissima Series ..... 82, 96

## Calibrachoa

Crave Collection F1 Series ..... 8, 46  
Kabloom® F1 Series ..... 8, 46

## Campanula

Campana F1 Series ..... 136, 144  
Rapido F1 Series ..... 82, 98

## Carthamus

Grenade Series ..... 136, 144

## Celosia

Bombay® Series ..... 136, 144  
Celway® Series ..... 136, 144  
Dracula ..... 8, 46  
First Flame Series ..... 8, 46  
Ice Cream Series ..... 8, 46  
Kosmo Series ..... 8, 46  
Neo Series ..... 136, 144  
Spring Green ..... 138, 144  
Sunday® Series ..... 138, 144

## Coleus

Black Dragon ..... 8, 46  
Wizard® Series ..... 10, 46

## Coleus, Premium Shade

Kong Jr. Series ..... 10, 46  
Kong® Series ..... 10, 46

## Coleus, Premium Sun

Chocolate Covered Cherry ..... 10, 48

Chocolate Mint ..... 10, 48  
Crimson Gold ..... 10, 48  
Dark Chocolate ..... 10, 48  
Lime Delight ..... 10, 48  
Mighty Mosaic ..... 10, 48  
Pineapple Surprise ..... 10, 48  
Rose to Lime Magic ..... 10, 48  
Watermelon ..... 10, 48

## ColorGrass Anemanthele

Sirocco ..... 10, 48

## ColorGrass Carex

Amazon Mist ..... 12, 48  
Bronco ..... 12, 48  
Phoenix Green ..... 12, 50  
Red Rooster ..... 12, 50

## ColorGrass Corynephorus

Spiky Blue ..... 12, 50

## ColorGrass Festuca

Festina ..... 12, 50

## ColorGrass Isolepis

Live Wire ..... 12, 50

## ColorGrass Juncus

Blue Arrows ..... 12, 50  
Blue Dart ..... 12, 50  
Javelin ..... 12, 50  
Starhead ..... 12, 50

## ColorGrass Koeleria

Coolio ..... 12, 50

## ColorGrass Luzula

Lucius ..... 12, 50

## ColorGrass Stipa

Pony Tails ..... 12, 50

## Coreopsis

Double the Sun ..... 82, 98  
Early Sunrise ..... 84, 98  
Sunfire ..... 84, 98  
SunKiss ..... 84, 98

## Cosmos

Antiquity ..... 12, 50  
Sonata Series ..... 14, 50

## Crossandra

Tropic Series ..... 14, 50

## Cucumber

Gherking F1 ..... 154, 166  
Martini F1 ..... 154, 166  
Patio Snacker F1 ..... 154, 166

## Cuphea

Dynamite ..... 14, 50

## Cyclamen

Dreamscape F1 Series ..... 14, 50

## Dahlia

Figaro® Series ..... 14, 50

## Delphinium

Blue Donna ..... 84, 98, 138, 144  
Diamonds Blue F1 ..... 84, 98  
Guardian F1 Series ..... 84, 100, 138, 146

## Deschampsia

Zephyr ..... 14, 52

## Dianthus

Amazon F1 Series ..... 138, 146  
Bouquet F1 Series ..... 84, 100, 138, 146  
Corona F1 Series ..... 14, 52  
Dash F1 Series ..... 14, 52  
Dynasty F1 Series ..... 14, 52  
Floral Lace F1 Series ..... 14, 52  
Ideal Select F1 Series ..... 14, 52  
Rockin' F1 Series ..... 84, 100  
Sweet F1 Series ..... 138, 146

## Dianthus (Interspecific)

Jolt F1 Series ..... 14, 52

## Dichondra

Emerald Falls ..... 14, 52  
Silver Falls ..... 16, 52

## Digitalis

Dalmatian F1 Series ..... 84, 100

## Dusty Miller Maritima

Silverdust ..... 16, 52

## Echinacea

Cheyenne Spirit ..... 86, 100  
PowWow® Series ..... 86, 100

## Eggplant

Gretel F1 ..... 154, 166  
Hansel F1 ..... 154, 166  
Patio Baby F1 ..... 154, 166

## Erysimum

Citrona® Series ..... 16, 52

## Euphorbia

Glitz F1 ..... 16, 52

## Exacum

Princess Series ..... 114, 128  
Royal Dane Series ..... 114, 128  
Supreme ..... 114, 128

## Fuseables®

Bacopa Series ..... 16, 52  
Calibrachoa Series ..... 16, 54  
Coleus Series ..... 16, 54  
Pansy F1 Series ..... 16, 54  
Petunia-Bacopa Series ..... 16, 54  
Petunia Series ..... 16, 54  
Twisted Arrows ..... 16, 54  
Twisted Dart ..... 18, 54  
Viola-Alyssum Series ..... 18, 56  
Viola Series ..... 18, 54

## Gaillardia

Mesa F1 Series ..... 86, 100

## Gaura

Sparkle White ..... 86, 102

## Gazania

New Day® F1 Series ..... 18, 56

## Gazania Tetraploid

Sunshine Series ..... 18, 56

## Geranium (Ivy)

Summer Showers Series ..... 18, 56

## Gerbera

Mega Revolution Series ..... 114, 128  
Revolution F1 Series ..... 114, 128

## Gomphrena

Fireworks ..... 18, 56  
QIS Series ..... 138, 146

## Gypsophila

Pixie Splash ..... 86, 102

## Helenium

Dakota Gold ..... 18, 56

## Helichrysum

Silver Mist ..... 18, 56

## Herb (Basil)

Dolce Fresca ..... 154, 166  
Everleaf Genovese ..... 154, 166  
Purple Ruffles ..... 154, 166  
Sweet Dani Lemon ..... 154, 166

## Herb (Dill)

Fernleaf ..... 154, 166

## Heuchera

Melting Fire ..... 86, 102  
Palace Purple ..... 86, 102

## Hibiscus

Luna F1 Series ..... 86, 102  
Mahogany Splendor ..... 18, 56

## Hypoestes

Splash Select Series ..... 114, 128

## Iberis

Whiteout ..... 88, 102

## Impatiens

Dazzler® F1 Series ..... 18, 56  
Impreza® F1 Series ..... 18, 56  
Super Elfin® F1 Series ..... 18, 56  
Super Elfin® XP F1 Series ..... 20, 56

## Impatiens (New Guinea)

Divine F1 Series ..... 20, 56

## Iresine

Purple Lady ..... 20, 58

## Isotoma

Gemini F1 Series ..... 20, 58  
Tristar Series ..... 20, 58

## Juncus

Twister ..... 20, 58

## Lavandula

Avignon Early Blue ..... 88, 102  
Bandera Series ..... 88, 102  
Blue Spear ..... 88, 102  
Ellagance Series ..... 88, 104  
Lavance Deep Purple ..... 90, 104  
Spanish Eyes ..... 90, 104

## Leycesteria

Jealousy ..... 20, 58

## Limonium

QIS Series ..... 138, 146

## Linaria

Enchantment F1 ..... 20, 58

## Lisianthus

ABC F1 Series ..... 138, 146  
Flare F1 Series ..... 140, 146  
Florida F1 Series ..... 20, 58  
Sapphire F1 Series ..... 114, 128

## Lobelia

Cambridge Series ..... 20, 58  
Cobalt Blue ..... 20, 58  
Crystal Palace ..... 20, 58  
Fountain Series ..... 20, 58  
Mrs Clibran ..... 20, 58  
Rapid Series ..... 22, 58  
Regatta Series ..... 22, 58  
Riviera Series ..... 22, 58  
Rosamond ..... 22, 58  
Sapphire Pendula ..... 22, 58  
Starship F1 Series ..... 90, 104  
String Of Pearls ..... 22, 60  
Vulcan Red ..... 90, 104  
White Lady ..... 22, 60

## Marigold (African)

Lady F1 Series ..... 22, 60  
Marvel F1 Series ..... 22, 60  
Taishan® F1 Series ..... 22, 60  
Vanilla F1 ..... 22, 60

## Marigold (French)

Bonanza Series ..... 22, 60  
Durango® Series ..... 22, 60  
Fireball ..... 22, 60  
Gate Series ..... 24, 60  
Hot Pak Series ..... 24, 60  
Janie Series ..... 24, 60  
Strawberry Blonde ..... 24, 60

**Matricaria**

Vegmo Series ..... 140, 146

**Matthiola**Aida Series ..... 140, 146  
Column Stock Series ..... 140, 146  
Figaro Series ..... 140, 148  
Hot Cakes Series ..... 24, 60  
Katz Series ..... 140, 148  
Mathilda Series ..... 140, 148  
Opera Series ..... 140, 148**Myosotis**

Mon Amie Blue ..... 90, 104

**Nemesia**Poetry F<sub>1</sub> Series ..... 24, 60  
Sundrops Mixture ..... 24, 60**Nepeta**Blue Moon ..... 90, 106  
Pink Cat ..... 90, 106**Nicotiana**

Nicki Series ..... 24, 60

**Ornamental Corn**

Pink Zebra ..... 24, 62

**Ornamental Millet**Copper Prince F<sub>1</sub> ..... 24, 62  
Jade Princess F<sub>1</sub> ..... 26, 62  
Jester F<sub>1</sub> ..... 26, 62  
Purple Baron F<sub>1</sub> ..... 26, 62  
Purple Majesty ..... 26, 62**Ornamental Mint**

Mini Mint ..... 26, 62

**Ornamental Oregano**

Kirigami ..... 26, 62

**Ornamental Pepper**Acapulco® Series ..... 114, 128  
Black Pearl ..... 26, 62  
Blaze ..... 116, 128  
Calico F<sub>1</sub> ..... 26, 62  
Chilly Chili F<sub>1</sub> ..... 116, 128  
Coba ..... 116, 128  
Cosmo ..... 116, 128  
Cupala ..... 116, 128  
Fiesta ..... 116, 128  
Golden Cayenne ..... 116, 130  
Habanero ..... 118, 130  
Harlequin ..... 118, 130  
Hot Banana ..... 118, 130  
Hot Burrito ..... 118, 130  
Hot Carrot ..... 118, 130  
Hot Fajita ..... 118, 130  
Hot Joker ..... 120, 130  
Hot Lemon ..... 120, 130  
Hot Pops Series ..... 120, 130  
Hot Tomato ..... 120, 130  
Jalapeño ..... 120, 130  
Joker ..... 120, 130  
Macho ..... 122, 130  
Masquerade ..... 122, 130  
Medusa ..... 122, 130  
Midnight Fire ..... 26, 64  
Paracho ..... 122, 132  
Purple Flash ..... 26, 64  
Red Bell ..... 122, 132  
Red Missile ..... 122, 132  
Salsa Series ..... 122, 132  
Samba Series ..... 124, 132  
Samba XL Series ..... 124, 132  
Sangria F<sub>1</sub> ..... 26, 64  
Santos Series ..... 124, 132  
Sedona Sun ..... 26, 64  
Snack Series ..... 124, 132  
Snack Supreme ..... 124, 132  
Torito ..... 124, 132  
Wicked ..... 126, 132  
Yellow Tomato ..... 126, 132  
Zamora Series ..... 126, 132**Osteospermum**Akila® F<sub>1</sub> Series ..... 28, 64**Pansy**Fizzy F<sub>1</sub> Series ..... 28, 64  
Frizzle Sizzle F<sub>1</sub> Series ..... 28, 64  
Halloween Improved F<sub>1</sub> ..... 28, 64  
Matrix® F<sub>1</sub> Series ..... 28, 64  
Panola® F<sub>1</sub> Series ..... 28, 66  
Panola® XP F<sub>1</sub> Series ..... 28, 66  
Promise® F<sub>1</sub> Series ..... 28, 66  
Spring Matrix F<sub>1</sub> Series ..... 28, 66**Pansy (Spreading)**Cool Wave® F<sub>1</sub> Series ..... 28, 66**Papaver**Champagne Bubbles F<sub>1</sub> Series ..... 92, 106**Penstemon**Carillo Series ..... 92, 106  
Electric Blue ..... 92, 106**Pentas**Butterfly F<sub>1</sub> Series ..... 30, 66  
Glitterati F<sub>1</sub> Series ..... 30, 66  
Lucky Star F<sub>1</sub> Series ..... 30, 66**Pepper**Aji Rico F<sub>1</sub> ..... 156, 166  
Cajun Belle ..... 156, 166  
Candy Cane Red F<sub>1</sub> ..... 156, 166  
Habanero Primero Red F<sub>1</sub> ..... 156, 166  
La Bomba II F<sub>1</sub> ..... 156, 166  
Mad Hatter F<sub>1</sub> ..... 156, 166  
Snackabelle Red F<sub>1</sub> ..... 156, 166  
Sweet Heat F<sub>1</sub> ..... 156, 166**Perovskia**

Blue Steel ..... 92, 106

**Petunia**Carpet F<sub>1</sub> Series ..... 32, 66  
Daddy® F<sub>1</sub> Series ..... 32, 66  
Debonair Collection F<sub>1</sub> Series ..... 32, 68  
Dreams F<sub>1</sub> Series ..... 32, 68  
Ez Rider® F<sub>1</sub> Series ..... 32, 68  
Lo Rider® F<sub>1</sub> Series ..... 32, 68  
Madness® F<sub>1</sub> Series ..... 32, 68  
Mirage F<sub>1</sub> Series ..... 32, 68  
Pretty Flora F<sub>1</sub> Series ..... 32, 68  
Pretty Grand F<sub>1</sub> Series ..... 32, 68  
Sophistica Collection F<sub>1</sub> Series ..... 32, 68  
Supercascade F<sub>1</sub> Series ..... 32, 68**Petunia (Double)**Bonanza F<sub>1</sub> Series ..... 32, 68  
Double Cascade F<sub>1</sub> Series ..... 34, 68  
Double Madness® F<sub>1</sub> Series ..... 34, 68  
Duo F<sub>1</sub> Series ..... 34, 70  
Glorious F<sub>1</sub> Series ..... 34, 70  
Pirouette F<sub>1</sub> Series ..... 34, 70  
Valentine F<sub>1</sub> ..... 34, 70**Petunia (Spreading)**Combo Blue F<sub>1</sub> ..... 34, 70  
Easy Wave® F<sub>1</sub> Series ..... 34, 70  
Shock Wave® F<sub>1</sub> Series ..... 34, 70  
Tidal Wave® F<sub>1</sub> Series ..... 34, 70  
Wave® F<sub>1</sub> Series ..... 34, 70**Phlox**21st Century F<sub>1</sub> Series ..... 34, 70  
Ethnie Series ..... 36, 72  
Grammy Pink & White F<sub>1</sub> ..... 36, 72  
Promise Series ..... 36, 72**Plectranthus**Silver Crest ..... 36, 72  
Silver Shield ..... 36, 72**Portulaca**Happy Hour F<sub>1</sub> Series ..... 36, 72  
Happy Trails F<sub>1</sub> Series ..... 36, 72**Primula**Heritage Crème F<sub>1</sub> ..... 36, 72  
Optic F<sub>1</sub> Series ..... 36, 72  
Primlet® Series ..... 36, 72**Purslane**

Toucan Series ..... 36, 72

**Rudbeckia**

Goldsturm ..... 92, 106

**Ruellia**

Southern Star Series ..... 36, 72

**Salvia**Flare ..... 36, 72  
Lighthouse Series ..... 38, 72  
New Dimension Series ..... 92, 106  
Patio Series ..... 92, 108  
Red Hot Sally II ..... 38, 74  
Scarlet King ..... 38, 74  
Vista Series ..... 38, 74**Salvia interspecific**

Big Blue ..... 38, 74

**Saxifraga**

Rocco Red ..... 94, 108

**Scabiosa**Blue Note ..... 94, 108  
Pink Diamonds ..... 94, 108**Scutellaria**

Veranda ..... 38, 74

**Silene**

Starry Dreams ..... 94, 108

**SimplyHerbs**Basil ..... 156, 168  
Curled Parsley ..... 158, 168  
Dill ..... 158, 168  
Large-Leaf Italian  
Flat Leaf Parsley ..... 158, 168  
Oregano ..... 158, 168  
Rosemary ..... 158, 168  
Sage ..... 158, 168  
Thyme ..... 158, 168  
Try Basil ..... 158, 168**SimplySalad®**Alfresco Mixture ..... 158, 168  
Arugula ..... 158, 168  
City Garden Mixture ..... 158, 168  
Cress ..... 158, 168  
Global Gourmet Mixture ..... 158, 168  
Kale Storm Mixture ..... 160, 168  
Summer Picnic Mixture ..... 160, 170  
Wonder Wok Mixture ..... 160, 170**Snapdragon**Cool F<sub>1</sub> Series ..... 142, 148  
Early Potomac® F<sub>1</sub> Series ..... 142, 148  
Maryland F<sub>1</sub> Series ..... 142, 148  
Monaco F<sub>1</sub> Series ..... 142, 148  
Potomac® F<sub>1</sub> Series ..... 142, 150  
Purple Twist F<sub>1</sub> ..... 142, 150  
Red Delilah F<sub>1</sub> ..... 142, 150  
Rocket F<sub>1</sub> Series ..... 38, 74, 142, 150  
Snapshot F<sub>1</sub> Series ..... 38, 74  
Solstice F<sub>1</sub> Series ..... 38, 74**Spilanthes**

Peek-A-Boo ..... 38, 74

**Squash**Butterbaby ..... 160, 170  
Easy Pick F<sub>1</sub> Series ..... 160, 170  
Honeynut ..... 160, 170**Stock**

Vintage Series ..... 38, 74

**Strawberry**

Fresca ..... 160, 170

**Sunflower**Ballad F<sub>1</sub> ..... 126, 132  
Choco Sun ..... 126, 132  
Jua F<sub>1</sub> Series ..... 142, 150  
Miss Sunshine F<sub>1</sub> ..... 126, 132  
SunBuzz F<sub>1</sub> ..... 126, 132**Talinum**Limón ..... 38, 74  
Verde ..... 38, 74**Thunbergia**

Susie Series ..... 38, 74

**Thymophylla**

Golden Dawn ..... 40, 74

**Tomato**Candyland Red ..... 160, 170  
Chocolate Sprinkles F<sub>1</sub> ..... 160, 170  
Heirloom Marriage  
Big Brandy F<sub>1</sub> ..... 160, 170  
Heirloom Marriage  
Cherokee Carbon F<sub>1</sub> ..... 160, 170  
Heirloom Marriage  
Genuwine F<sub>1</sub> ..... 162, 170  
Heirloom Marriage  
Jersey Boy F<sub>1</sub> ..... 162, 170  
Heirloom Marriage  
Marzineria F<sub>1</sub> ..... 162, 170  
Heirloom Marriage  
Perfect Flame F<sub>1</sub> ..... 162, 170  
Homeslice F<sub>1</sub> ..... 162, 170  
Little Bing F<sub>1</sub> ..... 162, 170  
Little Napoli F<sub>1</sub> ..... 162, 172  
Little Sicily F<sub>1</sub> ..... 162, 172  
Micro Tom ..... 162, 172  
Midnight Snack F<sub>1</sub> ..... 162, 172  
Orange Zinger F<sub>1</sub> ..... 164, 172  
Stellar F<sub>1</sub> ..... 164, 172  
Sugar Rush F<sub>1</sub> ..... 164, 172  
Sunrise Sauce F<sub>1</sub> ..... 164, 172  
Tidy Rose F<sub>1</sub> ..... 164, 172  
Tidy Treats F<sub>1</sub> ..... 164, 172  
Topsy Tom F<sub>1</sub> ..... 164, 172  
Tumbler F<sub>1</sub> ..... 164, 172**Torenia**

Kauai Series ..... 40, 76

**Trachelium**

Lake Series ..... 142, 150

**Verbascum**

Southern Charm ..... 94, 108

**Verbena**Buenos Aires ..... 94, 108  
Quartz Series ..... 40, 76  
Quartz XP Series ..... 40, 76  
Santos Purple ..... 94, 108**Veronica**

Blue Bouquet ..... 94, 108

**Vinca**Jams 'N Jellies Series ..... 40, 76  
Mediterranean Series ..... 40, 76  
Mediterranean XP Series ..... 40, 76  
Pacifica XP Series ..... 40, 76  
Tattoo Series ..... 40, 76  
Titan® F<sub>1</sub> Series ..... 40, 76  
Valiant F<sub>1</sub> Series ..... 40, 76**Viola**Sorbet® F<sub>1</sub> Series ..... 42, 76  
Sorbet® XP F<sub>1</sub> Series ..... 42, 78**Zinnia**Double Zahara Series ..... 42, 78  
Star Series ..... 42, 78  
State Fair Series ..... 42, 78  
UpTown Series ..... 42, 78  
Zahara® Series ..... 42, 78  
Zahara® XL Series ..... 42, 78

# PanAmerican Seed<sup>®</sup> **KieftSeed**

**Contact your preferred supplier to order PanAmerican Seed products.  
Visit [panamseed.com](http://panamseed.com) for current Terms & Conditions of Sale.**

622 Town Road  
West Chicago, Illinois 60185-2698 USA  
+1 630 231-1400  
+1 800 231-7065  
Fax: +1 630 293-2557

P.O. Box 63  
1606 ZH Venhuizen, The Netherlands  
+31 (0) 228-541-844  
Fax: +31 (0) 228-543-440

© 2018 Ball Horticultural Company 18012

♻️ Printed in the U.S. on 10% post-consumer recycled paper with soy-based inks.

® denotes a registered trademark of Ball Horticultural Company in the U.S. and/or the European Community.

ACAPULCO is a registered trademark of Ex-Plant A/S in the European Community.