

2023

SEED PRODUCT INFORMATION GUIDE

PanAmericanSeed®

NEW VARIETIES FOR 2023

ANNUALS

Begonia

Dragon Wing® F1 White
Megawatt™ F1 Rose Bronze Leaf Improved
Megawatt™ F1 White Green Leaf

Coleus, Premium Sun

Ruby Heart

Cyclamen

Dreamscape™ F1 Bright Purple
Dreamscape™ F1 Rose Eye

Dianthus

Coronet™ F1 Purple
Coronet™ F1 White Purple Eye

Impatiens

Beacon® F1 Lindau Mixture
Beacon® F1 Portland Mixture
Beacon® F1 Sanibel Mixture

Interspecific Impatiens

Solarscape™ F1 Magenta Bliss
Solarscape™ F1 Neon Purple
Solarscape™ F1 Orange Burst
Solarscape™ F1 White Shimmer
Solarscape™ XL F1 Salmon Glow

Spreading Begonia

Hula™ F1 Bicolor Red White
Hula™ F1 Blush
Hula™ F1 Pink
Hula™ F1 Red

Spreading Pansy

Cool Wave® F1 Blue

Spreading Petunia

E3 Easy Wave™ F1 Formula Mixture

Vinca

Tattoo™ Orange
Titan™ F1 Cranberry

Viola

Sorbet® XP F1 Red

Zinnia

Zesty™ Orange
Zesty™ Yellow

PERENNIALS

Echinacea

Artisan™ Collection F1 Yellow Ombre

Perovskia

Bluesette

Rudbeckia

Goldblitz

CUT FLOWERS

Celosia

Sunday™ Bright Pink Improved
Sunday™ Cherry Improved
Sunday™ Gold Improved
Sunday™ Green

Limonium

QIS Mixture Improved

Lisianthus

Can Can F1 Carmine Rose

Matthiola

Mathilda™ Antique Rose

HANDPICKED VEGETABLES & HERBS

Pepper

Trailblazer F1

Tomato

BlushingStar F1
Sun Dipper F1

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 |

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 |

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 for current Terms & Conditions of Sale.**

USDA PLANT HARDINESS ZONE AND AVERAGE ANNUAL MINIMUM TEMPERATURE RANGE

| Zone | Fahrenheit | Celsius |
|------|--------------|------------------|
| 1 | Below -50°F | Below -45.6°C |
| 2a | -50 to -45°F | -42.8 to -45.5°C |
| 2b | -45 to -40°F | -40.0 to -42.7°C |
| 3a | -40 to -35°F | -37.3 to -39.9°C |
| 3b | -35 to -30°F | -34.5 to -37.2°C |
| 4a | -30 to -25°F | -31.7 to -34.4°C |
| 4b | -25 to -20°F | -28.9 to -31.6°C |
| 5a | -20 to -15°F | -26.2 to -28.8°C |
| 5b | -15 to -10°F | -23.4 to -26.1°C |
| 6a | -10 to -5°F | -20.6 to -23.3°C |
| 6b | -5 to 0°F | -17.8 to -20.5°C |
| 7a | 0 to 5°F | -15.0 to -17.7°C |
| 7b | 5 to 10°F | -12.3 to -14.9°C |
| 8a | 10 to 15°F | -9.5 to -12.2°C |
| 8b | 15 to 20°F | -6.7 to -9.4°C |
| 9a | 20 to 25°F | -3.9 to -6.6°C |
| 9b | 25 to 30°F | -1.2 to -3.8°C |
| 10a | 30 to 35°F | 1.6 to -1.1°C |
| 10b | 35 to 40°F | 4.4 to 1.7°C |
| 11 | above 40°F | above 4.5°C |

FERTILIZER RATE TABLE

| Fertilizer Rate | PPM Nitrogen | Solution 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:

AMP - Amplified Seed
 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

wave®



| | |
|-------------------------------|--|
| ANNUALS | PROPAGATION GUIDE P. 8 / FINISHING GUIDE P. 46 |
| PERENNIALS | PROPAGATION GUIDE P. 80 / FINISHING GUIDE P. 92 / FORCING GUIDE P. 108 |
| POTTED PLANTS | PROPAGATION GUIDE P. 112 / FINISHING GUIDE P. 118 |
| CUT FLOWERS | PROPAGATION GUIDE P. 124 / FINISHING GUIDE P. 132 |
| VEGETABLES & HERBS | |
| HANDPICKED | PROPAGATION GUIDE P. 142 / FINISHING GUIDE P. 156 |
| KITCHEN MINIS | PROPAGATION GUIDE P. 168 / FINISHING GUIDE P. 172 |



These tables will help you to decide when you need to light the different Wave Petunia family varieties and choose the right variety for you.

For example, if you want to produce Wave petunia during week 6 to week 20 in Kalamazoo, MI (N42.5°), you need to light group 4 varieties for 2 weeks, group 5 varieties for 6 weeks, and group 6 varieties for 8 weeks, but you don't need to use Photoperiodic light for group 1 to 3 varieties.

DAYLENGTH REQUIREMENTS FOR FLOWERING WAVE® PETUNIA VARIETIES

| GROUP | MIN. DAYLENGTH REQUIREMENT* | VARIETY |
|-------|---|---|
| 0 | 9 hours (no supplemental light requirement) | E3 Easy Wave™ White, Easy Wave® Rose Fusion |
| 1 | 9.5 hours | E3 Easy Wave Coral, Red, Pink and Sky Blue; Easy Wave Lavender Sky Blue |
| 2 | 10 hours | E3 Easy Wave Blue, Pink Cosmo; Easy Wave Berry Velour, Pink Passion, Burgundy Star, Coral Reef, Neon Rose, Rosy Dawn, Silver, Violet, White and Yellow; Shock Wave® Coral Crush, Denim, Pink Shades and Red |
| 3 | 10.5 hours | Easy Wave Blue, Burgundy Velour; Shock Wave Pink Vein, Deep Purple, Purple Tie Dye, Rose and White |
| 4 | 11 hours | Easy Wave Pink, Plum Vein, Red and Red Velour |
| 5 | 12 hours | Wave Lavender, Misty Lilac, Pink, Purple Classic, Purple** and all Tidal Wave® colours |
| 6 | 13 hours | Wave Carmine Velour |

*Speed of flowering increases at longer daylengths.
 **Wave Purple requires 11.5 hours daylength or one week less of Photoperiodic lighting compared to Purple Classic.

PRODUCTION WEEKS WHEN LIGHTING IS REQUIRED FOR DIFFERENT WAVE PETUNIAS BASED ON LATITUDE

(N: Natural Daylength, L: Photoperiodic Lighting--daylength extension to 14 hours or night interruption from 10PM to 2AM by using HID or incandescent lights)

Latitude N25° • For cities such as: Miami, FL

| Week | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | | | | | |
|---------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|---|---|---|---|---|
| Group 1 | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | | | | |
| Group 2 | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | | |
| Group 3 | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | | |
| Group 4 | L | L | L | L | L | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | | |
| Group 5 | L | L | L | L | L | L | L | L | L | L | L | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | |
| Group 6 | L | L | L | L | L | L | L | L | L | L | L | L | L | L | L | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N |

Latitude N30° • For cities such as: Jacksonville, FL; New Orleans, LA; San Antonio and Houston, TX

| Week | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | | | | | | | | | | | | | |
|---------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Group 1 | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | | | | | | | |
| Group 2 | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | | | | | | |
| Group 3 | L | L | L | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | | | | | |
| Group 4 | L | L | L | L | L | L | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | | | | |
| Group 5 | L | L | L | L | L | L | L | L | L | L | L | L | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | | | |
| Group 6 | L | L | L | L | L | L | L | L | L | L | L | L | L | L | L | L | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N |

ANNUALS

PanAmerican Seed®



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| WAVE | PHOTOPERIODIC LIGHTING CHART P. 4 |
| PERENNIALS | PROPAGATION GUIDE P. 80 / FINISHING GUIDE P. 92 / FORCING GUIDE P. 108 |
| POTTED PLANTS | PROPAGATION GUIDE P. 112 / FINISHING GUIDE P. 118 |
| CUT FLOWERS | PROPAGATION GUIDE P. 124 / FINISHING GUIDE P. 132 |
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| CLASS/SERIES | SEED FORM | RECOMMENDED PLUG SIZE | PLUG CROP WEEKS | SEEDS/ CELL | COVER SEED | DAYS FROM 50% TO MAXIMUM GERMINATION | INITIAL MEDIA PH/EC (1:2) | STAGE 1 |
|---|-----------|-----------------------|-----------------|-------------|-------------|--------------------------------------|-------------------------------|--|
| AGERATUM <i>Ageratum houstonianum</i> High Tide™ F₁ Series | 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 |
| ALTERNANTHERA <i>Alternanthera dentata</i> Purple Knight | 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 |
| ALTERNANTHERA <i>Alternanthera brasiliana</i> Purple Prince | 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 |
| ALYSSUM <i>Lobularia maritima</i> Clear Crystal® Series | 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) |
| ALYSSUM <i>Lobularia maritima</i> Easter Bonnet Series | 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 |
| ALYSSUM <i>Lobularia maritima</i> Snow Crystals | 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 |
| ANGELONIA <i>Angelonia angustifolia</i> Serena® F₁ Series | 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 |
| ANGELONIA <i>Angelonia angustifolia</i> Serenita® F₁ Series | 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 |
| BACOPA <i>Sutera cordata</i> Blutopia® F₁ | 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 |
| BACOPA <i>Sutera cordata</i> Pinktopia F₁ | MPL | 288 128 | 3-4 4 | 1 1 | No | 4 | 55.0-60.0 pH 0.75 mmhos/cm | (m) Level 4 (t) 68-74°F (20-23°C) (l) Light |

| STAGE 2 | STAGE 3 | STAGE 4 | KEY TIPS |
|--|---|---|--|
| (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. |
| (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) | |
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| (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. |
| (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. |
| (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. |
| (m) Level 3 (t) 68-73°F (20-23°C) (l) 8 mol·m ⁻² ·d ⁻¹ , 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 ⁻² ·d ⁻¹ , 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 ⁻² ·d ⁻¹ , 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. |
| (m) Level 3 (t) 68-73°F (20-23°C) (l) 8 mol·m ⁻² ·d ⁻¹ , 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 ⁻² ·d ⁻¹ , 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 ⁻² ·d ⁻¹ , 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. |
| (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. |
| (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. |

(m) moisture (t) temperature (l) light (f) fertilizer (p) plant growth regulators

| CLASS/SERIES | SEED FORM | RECOMMENDED PLUG SIZE | PLUG CROP WEEKS | SEEDS/ CELL | COVER SEED | DAYS FROM 50% TO MAXIMUM GERMINATION | INITIAL MEDIA PH/EC (1:2) | STAGE 1 |
|---|-----------|-----------------------|-----------------|-------------|------------|--------------------------------------|-----------------------------|---|
| BACOPA <i>Sutera cordata</i> Snowtopia® F₁ | 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 |
| BEGONIA <i>Begonia x hybrida</i> BabyWing® F₁ Series | 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) Light |
| BEGONIA <i>Begonia x hybrida</i> Dragon Wing® F₁ Series | 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) Light |
| BEGONIA <i>Begonia x hybrida</i> Gryphon | 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 |
| BEGONIA <i>Begonia interspecific</i> Megawatt™ F₁ Series | PEL | 288 | 7-8 | 1 | No | 7-21 | 5.8-6.2 pH 0.5 mmhos/cm | (m) Level 5 (t) 72-77°F (22-25°C) (l) Light |
| BEGONIA (SPREADING) <i>Begonia interspecific</i> Hula™ Series | 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) Light |
| BEGONIA (TUBEROUS) <i>Begonia x tuberosa</i> AmeriHybrid® Picotee F₁ Series | PEL | 288 | 7-8 | 1 | No | 7-14 | 5.5-6.0 pH 0.5 mmhos/cm | (m) Level 5 (t) 72-76°F (22-24°C) (l) Light |
| BEGONIA (TUBEROUS) <i>Begonia x tuberosa</i> AmeriHybrid® Ruffled F₁ Series | PEL | 288 | 7-8 | 1 | No | 7-14 | 5.5-6.0 pH 0.5 mmhos/cm | (m) Level 5 (t) 72-76°F (22-24°C) (l) Light |
| BEGONIA (TUBEROUS) <i>Begonia x tuberosa</i> On Top® F₁ Series | PEL | 288 | 7-8 | 1 | No | 7-14 | 5.5-6.0 pH 0.5 mmhos/cm | (m) Level 5 (t) 72-76°F (22-24°C) (l) Light |
| BEGONIA (TUBEROUS) <i>Begonia x tuberosa</i> Sun Dancer™ F₁ Series | PEL | 288 | 7-8 | 1 | No | 7-14 | 5.5-6.0 pH 0.5 mmhos/cm | (m) Level 5 (t) 72-76°F (22-24°C) (l) Light |

| STAGE 2 | STAGE 3 | STAGE 4 | KEY TIPS |
|--|--|--|--|
| (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. |
| (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. |
| (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. |
| (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. |
| (m) Level 4-5 (t) 72-75°F (22-24°C) (l) 6 mol·m ⁻² ·d ⁻¹ , 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 ⁻² ·d ⁻¹ , 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 ⁻² ·d ⁻¹ , 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. |
| (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. |
| (m) Level 4-5 (t) 68-72°F (20-22°C) (l) 350-600 f.c. (3,800-6,500 Lux) (f) Less than 100 ppm N (Less than 0.7 EC) | (m) Level 3-4 (t) 65-68°F (18-20°C) (l) 350-600 f.c. (3,800-6,500 Lux) (f) Less than 100 ppm N (Less than 0.7 EC) | (m) Level 3-4 (t) 62-68°F (17-20°C) (l) 500-1,000 f.c. (5,400-10,800 Lux) (f) Less than 100 ppm N (Less than 0.7 EC) | Keep moisture high until the first true leaf develops. Once cotyledons are visible, maintain moist but not saturated media to promote root development. Avoid using ammonium nitrate during plug development, as it may inhibit root growth. A minimum 14-hour photoperiod lighting is required to avoid tuber formation and improve quality. Avoid strong sunlight (>2,000 foot candles). Strong sunlight will cause high leaf temperature and result in burned leaf edges. |
| (m) Level 4-5 (t) 68-72°F (20-22°C) (l) 350-600 f.c. (3,800-6,500 Lux) (f) Less than 100 ppm N (Less than 0.7 EC) | (m) Level 3-4 (t) 65-68°F (18-20°C) (l) 350-600 f.c. (3,800-6,500 Lux) (f) Less than 100 ppm N (Less than 0.7 EC) | (m) Level 3-4 (t) 62-68°F (17-20°C) (l) 500-1,000 f.c. (5,400-10,800 Lux) (f) Less than 100 ppm N (Less than 0.7 EC) | Keep moisture high until the first true leaf develops. Once cotyledons are visible, maintain moist but not saturated media to promote root development. Avoid using ammonium nitrate during plug development, as it may inhibit root growth. A minimum 14-hour photoperiod lighting is required to avoid tuber formation and improve quality. Avoid strong sunlight (>2,000 foot candles). Strong sunlight will cause high leaf temperature and result in burned leaf edges. |
| (m) Level 4-5 (t) 68-72°F (20-22°C) (l) 350-600 f.c. (3,800-6,500 Lux) (f) Less than 100 ppm N (Less than 0.7 EC) | (m) Level 3-4 (t) 65-68°F (18-20°C) (l) 350-600 f.c. (3,800-6,500 Lux) (f) Less than 100 ppm N (Less than 0.7 EC) | (m) Level 3-4 (t) 62-68°F (17-20°C) (l) 500-1,000 f.c. (5,400-10,800 Lux) (f) Less than 100 ppm N (Less than 0.7 EC) | Keep moisture high until the first true leaf develops. Once cotyledons are visible, maintain moist but not saturated media to promote root development. Avoid using ammonium nitrate during plug development, as it may inhibit root growth. A minimum 14-hour photoperiod lighting is required to avoid tuber formation and improve quality. Avoid strong sunlight (>2,000 foot candles). Strong sunlight will cause high leaf temperature and result in burned leaf edges. |
| (m) Level 4-5 (t) 68-72°F (20-22°C) (l) 350-600 f.c. (3,800-6,500 Lux) (f) Less than 100 ppm N (Less than 0.7 EC) | (m) Level 3-4 (t) 65-68°F (18-20°C) (l) 350-600 f.c. (3,800-6,500 Lux) (f) Less than 100 ppm N (Less than 0.7 EC) | (m) Level 3-4 (t) 62-68°F (17-20°C) (l) 500-1,000 f.c. (5,400-10,800 Lux) (f) Less than 100 ppm N (Less than 0.7 EC) | Keep moisture high until the first true leaf develops. Once cotyledons are visible, maintain moist but not saturated media to promote root development. Avoid using ammonium nitrate during plug development, as it may inhibit root growth. A minimum 14-hour photoperiod lighting is required to avoid tuber formation and improve quality. Avoid strong sunlight (>2,000 foot candles). Strong sunlight will cause high leaf temperature and result in burned leaf edges. |

(m) moisture (t) temperature (l) light (f) fertilizer (p) plant growth regulators

| CLASS/SERIES | SEED FORM | RECOMMENDED PLUG SIZE | PLUG CROP WEEKS | SEEDS/ CELL | COVER SEED | DAYS FROM 50% TO MAXIMUM GERMINATION | INITIAL MEDIA PH/EC (1:2) | STAGE 1 |
|---|-----------|-----------------------|-----------------|-------------|-------------|--------------------------------------|--------------------------------|--|
| CELOSIA <i>Celosia cristata</i> Dracula | PEL | 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 |
| CELOSIA <i>Celosia plumosa</i> First Flame™ Series | PEL | 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 |
| CELOSIA <i>Celosia plumosa</i> Ice Cream Series | PEL | 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 |
| CELOSIA FOLIAGE, SOL™ <i>Celosia argentea</i> Gekko Green | PEL | 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 |
| CELOSIA FOLIAGE, SOL™ <i>Celosia argentea</i> Lizzard Leaf | PEL | 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 |
| COLEUS <i>Solenostemon scutellarioides</i> Black Dragon | 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 |
| COLEUS <i>Solenostemon scutellarioides</i> Wizard® Series | 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 |
| COLEUS, PREMIUM SHADE <i>Solenostemon scutellarioides</i> Kong Jr.™ Series | 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 |
| COLEUS, PREMIUM SHADE <i>Solenostemon scutellarioides</i> Kong® Series | 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 |
| COLEUS, PREMIUM SUN <i>Solenostemon scutellarioides</i> Chocolate Covered Cherry | 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 |
| COLEUS, PREMIUM SUN <i>Solenostemon scutellarioides</i> Chocolate Mint | 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 |
| COLEUS, PREMIUM SUN <i>Solenostemon scutellarioides</i> Crimson Gold | 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 |

| STAGE 2 | STAGE 3 | STAGE 4 | KEY TIPS |
|--|---|---|---|
| (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) | Dracula is a facultative intermediate-day plant. Our best recommendation is to grow the product at daylength between 11 to 14 hours to get the most uniform product. Daylengths shorter than 11 hours or longer than 14 hours will significantly delay flowering. Too short of a daylength (10 hours or shorter) will cause non-uniform and deformed flowers. Too long of a daylength (16 hours or longer) will cause flower fasciate and leaves clustered close to top of the plant. |
| (m) Level 4 (t) 72-77°F (22-25°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. |
| (m) Level 4 (t) 72-77°F (22-25°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. |
| (m) Level 4 (t) 72-77°F (22-25°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. |
| (m) Level 4 (t) 72-77°F (22-25°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. |
| (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. |
| (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. |
| (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. |
| (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. |
| (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. |
| (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. |

(m) moisture (t) temperature (l) light (f) fertilizer (p) plant growth regulators

| CLASS/SERIES | SEED FORM | RECOMMENDED PLUG SIZE | PLUG CROP WEEKS | SEEDS/ CELL | COVER SEED | DAYS FROM 50% TO MAXIMUM GERMINATION | INITIAL MEDIA PH/EC (1:2) | STAGE 1 |
|---|-----------|-----------------------|-----------------|-------------|-------------|--------------------------------------|-----------------------------|--|
| COLEUS, PREMIUM SUN <i>Solenostemon scutellarioides</i> Dark Chocolate | 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 |
| COLEUS, PREMIUM SUN <i>Solenostemon scutellarioides</i> Lime Delight | 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 |
| COLEUS, PREMIUM SUN <i>Solenostemon scutellarioides</i> Mighty Mosaic | 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 |
| COLEUS, PREMIUM SUN <i>Solenostemon scutellarioides</i> Pineapple Surprise | 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 |
| COLEUS, PREMIUM SUN <i>Solenostemon scutellarioides</i> Rose to Lime Magic | 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 |
| COLEUS, PREMIUM SUN <i>Solenostemon scutellarioides</i> Ruby Heart | 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 |
| COLEUS, PREMIUM SUN <i>Solenostemon scutellarioides</i> Watermelon | 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 |
| COLORGRASS® ANEMANTHELE <i>Anemanthele lessoniana</i> Sirocco | 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 |
| COLORGRASS® CAREX <i>Carex comans</i> Amazon Mist | 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 |
| COLORGRASS® CAREX <i>Carex comans</i> Bronco | 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 |
| COLORGRASS® CAREX <i>Carex comans</i> Phoenix Green | 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 |
| COLORGRASS® CAREX <i>Carex buchananii</i> Red Rooster | 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 |

| STAGE 2 | STAGE 3 | STAGE 4 | KEY TIPS |
|--|---|---|--|
| (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. |
| (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. |
| (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. |
| (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. |
| (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. |
| (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. |
| (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. |
| (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. |
| (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) | |
| (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) | |
| (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) | |

(m) moisture (t) temperature (l) light (f) fertilizer (p) plant growth regulators

| CLASS/SERIES | SEED FORM | RECOMMENDED PLUG SIZE | PLUG CROP WEEKS | SEEDS/ CELL | COVER SEED | DAYS FROM 50% TO MAXIMUM GERMINATION | INITIAL MEDIA PH/EC (1:2) | STAGE 1 |
|---|-----------|-----------------------|-----------------|-------------|------------|--------------------------------------|--------------------------------|--|
| COLORGRASS® FESTUCA <i>Festuca cinerea</i> (<i>Festuca glauca</i>) Festina | 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 |
| COLORGRASS® ISOLEPIS <i>Isolepis cernua</i> Live Wire | 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 |
| COLORGRASS® JUNCUS <i>Juncus inflexus</i> Blue Arrows | 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 |
| COLORGRASS® JUNCUS <i>Juncus tenuis</i> Blue Dart | 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 |
| COLORGRASS® JUNCUS <i>Juncus pallidus</i> Javelin | 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 |
| COLORGRASS® JUNCUS <i>Juncus ensifolius</i> Starhead | 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 |
| COLORGRASS® JUNCUS <i>Juncus effusus spiralis</i> Twister | 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 |
| COLORGRASS® KOELERIA <i>Koeleria glauca</i> Coolio | 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 |
| COLORGRASS® LUZULA <i>Luzula nivea</i> Lucius | 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 |
| COLORGRASS® STIPA <i>Stipa tenuissima</i> Pony Tails | 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 |
| COSMOS <i>Cosmos bipinnatus</i> Antiquity | 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 |

| STAGE 2 | STAGE 3 | STAGE 4 | KEY TIPS |
|--|---|---|--|
| (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) | |
| (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. |
| (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) | |
| (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 <i>Dracaena Spike</i> . |
| (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. |
| (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) | |
| (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) | |
| (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. |
| (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. |
| (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) | |
| (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. |

(m) moisture (t) temperature (l) light (f) fertilizer (p) plant growth regulators

| CLASS/SERIES | SEED FORM | RECOMMENDED PLUG SIZE | PLUG CROP WEEKS | SEEDS/ CELL | COVER SEED | DAYS FROM 50% TO MAXIMUM GERMINATION | INITIAL MEDIA PH/EC (1:2) | STAGE 1 |
|---|-----------|-----------------------|-----------------|-------------|-------------|--------------------------------------|---------------------------------|--|
| COSMOS <i>Cosmos sulphureus</i> Mandarin | RAW | 288 | 3-4 | 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 |
| COSMOS <i>Cosmos bipinnatus</i> Sonata™ Series | 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 |
| CROSSANDRA <i>Crossandra infundibuliformis</i> Tropic Series | 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 |
| CUPHEA <i>Cuphea ignea</i> Dynamite | 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 |
| CUPHEA <i>Cuphea ramosissima</i> Pink Shimmer | PMPL | 288 | 4 | | No | 4-5 | 5.4-5.8 pH 1.5 mmhos/cm | (m) Level 4 (t) 72-77°F (22-25°C) (l) Light |
| DAHLIA <i>Dahlia x hybrida</i> Figaro™ Series | 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) |
| DIANTHUS <i>Dianthus chinensis</i> Coronet™ F₁ Series | PEL | 288 | 4-6 | 1 | Yes | 2-4 | 5.8-6.2 pH 0.75 mmhos/cm | (m) Level 4 (t) 64-77°F (18-25°C) (l) Optional |
| DIANTHUS <i>Dianthus barbatus</i> Dash™ F₁ Series | 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 |
| DIANTHUS <i>Dianthus barbatus interspecific</i> Dynasty F₁ Series | 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 |
| DIANTHUS <i>Dianthus chinensis x barbatus</i> Floral Lace™ F₁ Series | 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 |
| DIANTHUS <i>Dianthus chinensis x barbatus</i> Ideal Select™ F₁ Series | 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 |

| STAGE 2 | STAGE 3 | STAGE 4 | KEY TIPS |
|--|--|--|--|
| (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) 100 to 175 ppm N (0.7 to 1.2 EC) | (m) Level 2-3 (t) 57-60°F (14-16°C) (f) 100 to 175 ppm N (0.7 to 1.2 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) 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. |
| (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) | |
| (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. |
| (m) Level 3-4 (t) 72-77°F (22-25°C) (l) 10-12 mol·m ⁻² ·d ⁻¹ , 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) 72-77°F (22-25°C) (l) 10-15 mol·m ⁻² ·d ⁻¹ , 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 or paclobutrazol 1 ppm Spray | (m) Level 2-4 (t) 72-77°F (22-25°C) (l) 10-20 mol·m ⁻² ·d ⁻¹ , 2,500-5,000 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N (0.7 to 1.2 EC) | PGR use should only be done at Stage 3. Use a Bonzi 1 ppm spray in warmer conditions. Use a B-Nine 2,500 ppm spray in cooler conditions. |
| (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. |
| (m) Level 3-4 (t) 65-73°F (18-23°C) (l) 5-8 mol·m ⁻² ·d ⁻¹ (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 ⁻² ·d ⁻¹ (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 ⁻² ·d ⁻¹ (f) 100 to 175 ppm N (0.7 to 1.2 EC) | |
| (m) Level 3-4 (t) 65-70°F (18-21°C) (l) 5-8 mol·m ⁻² ·d ⁻¹ (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 ⁻² ·d ⁻¹ (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 ⁻² ·d ⁻¹ (f) 175 to 225 ppm N (1.2 to 1.5 EC) | |
| (m) Level 3-4 (t) 65-70°F (18-21°C) (l) 5-8 mol·m ⁻² ·d ⁻¹ (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 ⁻² ·d ⁻¹ (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 ⁻² ·d ⁻¹ (f) 175 to 225 ppm N (1.2 to 1.5 EC) | |
| (m) Level 3-4 (t) 65-70°F (18-21°C) (l) 5-8 mol·m ⁻² ·d ⁻¹ (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 ⁻² ·d ⁻¹ (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 ⁻² ·d ⁻¹ (f) 175 to 225 ppm N (1.2 to 1.5 EC) | |

(m) moisture (t) temperature (l) light (f) fertilizer (p) plant growth regulators

| CLASS/SERIES | SEED FORM | RECOMMENDED PLUG SIZE | PLUG CROP WEEKS | SEEDS/ CELL | COVER SEED | DAYS FROM 50% TO MAXIMUM GERMINATION | INITIAL MEDIA PH/EC (1:2) | STAGE 1 |
|--|-------------|-----------------------|-----------------|-------------|-------------|--------------------------------------|-----------------------------|--|
| DIANTHUS (INTERSPECIFIC) <i>Dianthus barbatus</i> <i>interspecific</i> Jolt™ F₁ Series | 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 |
| DICHONDRA <i>Dichondra repens</i> Emerald Falls | 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 |
| DICHONDRA <i>Dichondra argentea</i> Silver Falls | 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 |
| DUSTY MILLER MARITIMA <i>Cineraria maritima</i> / <i>Senecio cineraria</i> Silverdust | 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 |
| ERYSIMUM <i>Erysimum species</i> Citrona® Series | 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 |
| EUPHORBIA <i>Euphorbia graminea</i> Glamour | 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 |
| EUPHORBIA <i>Euphorbia graminea</i> Glitz F₁ | 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 |
| FUSEABLES® <i>Sutera cordata</i> Bacopa Series | 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 |
| FUSEABLES® <i>Solenostemon scutellarioides</i> Coleus Series | 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 |

| STAGE 2 | STAGE 3 | STAGE 4 | KEY TIPS |
|--|--|--|--|
| <p>(m) Level 3-4 (t) 65-70°F (18-21°C) (l) 5-8 mol·m⁻²·d⁻¹ (f) Less than 100 ppm N (Less than 0.7 EC) (p) paclobutrazol 5 ppm Spray</p> | <p>(m) Level 2-3 (t) 60-65°F (16-18°C) (l) 8-10 mol·m⁻²·d⁻¹ (f) 100 to 175 ppm N (0.7 to 1.2 EC) (p) paclobutrazol 5 ppm Spray</p> | <p>(m) Level 2-3 (t) 55-60°F (13-16°C) (l) 10 mol·m⁻²·d⁻¹ (f) 175 to 225 ppm N (1.2 to 1.5 EC)</p> | <p>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. Jolt Purple is more sensitive to paclobutrazol than others and the rate should be reduced to half of others.</p> |
| <p>(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)</p> | <p>(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</p> | <p>(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)</p> | <p>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.</p> |
| <p>(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)</p> | <p>(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</p> | <p>(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)</p> | <p>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.</p> |
| <p>(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)</p> | <p>(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</p> | <p>(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)</p> | <p>Preventative fungicide for Alternaria is recommended. Keep foliage as dry as possible to reduce risk of diseases.</p> |
| <p>(m) Level 4 (t) 65-70°F (18-21°C) (l) 2,500-3,000 f.c. (26,900-32,300 Lux)</p> | <p>(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</p> | <p>(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)</p> | |
| <p>(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)</p> | <p>(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</p> | <p>(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 2,500-5,000 ppm Spray</p> | <p>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. Apply daminozide spray for height control, with the first application at true leaf stage, followed by a second application 7 days later. An alternative to daminozide is an application of paclobutrazol srench at 2.5 ppm or drench at 0.25-0.5 ppm at radical emergence. This has been effective in controlling hypocotyl stretch. Glamour is vigorous, so this is a key tip. Follow either of these treatments with a single daminozide spray of 2,500 to 5,000 ppm in stage 3.</p> |
| <p>(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)</p> | <p>(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</p> | <p>(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</p> | <p>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 srench 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.</p> |
| <p>(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)</p> | <p>(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)</p> | <p>(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)</p> | |
| <p>(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)</p> | <p>(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> | <p>(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> | |

(m) moisture (t) temperature (l) light (f) fertilizer (p) plant growth regulators

| CLASS/SERIES | SEED FORM | RECOMMENDED PLUG SIZE | PLUG CROP WEEKS | SEEDS/ CELL | COVER SEED | DAYS FROM 50% TO MAXIMUM GERMINATION | INITIAL MEDIA PH/EC (1:2) | STAGE 1 |
|---|-----------|-----------------------|-----------------|-------------|------------|--------------------------------------|---------------------------------|--|
| FUSEABLES® <i>Petunia x hybrida</i> Petunia Series | 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 |
| FUSEABLES® <i>Petunia hybrida</i> , <i>Sutera cordata</i> Petunia-Bacopa Series | 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 |
| FUSEABLES® <i>Juncus inflexus</i> - <i>Juncus effusus spiralis</i> Twisted Arrows | 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 |
| GAZANIA <i>Gazania rigens</i> New Day® F₁ Series | 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 |
| GAZANIA TETRAPLOID <i>Gazania rigens</i> Sunshine Series | 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 |
| GOMPHRENA <i>Gomphrena pulchella</i> Fireworks | 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 |
| HELENIUM <i>Helenium amarum</i> Dakota Gold | 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 |
| HELICHRYSUM <i>Helichrysum microphyllum</i> (<i>Plectostachys serphyllifolia</i>) Silver Mist | 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 |
| HIBISCUS <i>Hibiscus acetosella</i> Mahogany Splendor | 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 |
| IMPATIENS <i>Impatiens walleriana</i> Beacon® F₁ Series | COT | 288 | 4-5 | 1 | No | 4-6 | 6.0-6.2 pH 0.5-0.75 mmhos/cm | (m) Level 4-5 (t) 68-77°F (20-25°C) (l) Light |
| IMPATIENS <i>Impatiens walleriana</i> Dazzler® F₁ Series | COT | 288 | 4-5 | 1 | No | 3-5 | 6.0-6.2 pH 0.5-0.75 mmhos/cm | (m) Level 4-5 (t) 68-77°F (20-25°C) (l) Light |

| STAGE 2 | STAGE 3 | STAGE 4 | KEY TIPS |
|--|---|---|---|
| (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. |
| (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. |
| (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) | |
| (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. |
| (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. |
| (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. |
| (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. |
| (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. |
| (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. |
| (m) Level 2-4 (t) 64-73°F (18-23°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) 65-68°F (18-20°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. Beacon White is slightly slower in stages 1 and 2 than other Beacon colours. |
| (m) Level 2-4 (t) 64-73°F (18-23°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) 65-68°F (18-20°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. |

(m) moisture (t) temperature (l) light (f) fertilizer (p) plant growth regulators

| CLASS/SERIES | SEED FORM | RECOMMENDED PLUG SIZE | PLUG CROP WEEKS | SEEDS/ CELL | COVER SEED | DAYS FROM 50% TO MAXIMUM GERMINATION | INITIAL MEDIA PH/EC (1:2) | STAGE 1 |
|---|-------------|-----------------------|-----------------|-------------|-------------|--------------------------------------|----------------------------------|--|
| IMPATIENS <i>Impatiens walleriana</i> Super Elfin® F₁ Series | RAW | 288 | 4-5 | 1 | No | 3-5 | 6.0-6.2 pH 0.5-0.75 mmhos/cm | (m) Level 4-5 (t) 68-77°F (20-25°C) (l) Light |
| IMPATIENS <i>Impatiens walleriana</i> Super Elfin® XP F₁ Series | RAW | 288 | 4-5 | 1 | No | 3-5 | 6.0-6.2 pH 0.5-0.75 mmhos/cm | (m) Level 4-5 (t) 68-77°F (20-25°C) (l) Light |
| IMPATIENS (INTERSPECIFIC) <i>Impatiens hybrida</i> Solarscape™ F₁ Series | RAW | 288 128 | 4-5 5-6 | 1 1 | Light cover | 4-5 | 5.8-6.2 pH 0.05-0.07 mmhos/cm | (m) Level 4-5 (t) 72-77°F (22-25°C) (l) Light |
| IMPATIENS (INTERSPECIFIC) <i>Impatiens hybrida</i> Solarscape™ XL F₁ Series | RAW | 288 128 | 4-5 5-6 | 1 1 | Light cover | 4-5 | 5.8-6.2 pH 0.05-0.07 mmhos/cm | (m) Level 4-5 (t) 72-77°F (22-25°C) (l) Light |
| IREesine <i>Iresine herbstii</i> Purple Lady | 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) |
| LISIANTHUS <i>Eustoma grandiflorum</i> Florida F₁ Series | 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 |
| LOBELIA <i>Lobelia erinus</i> Crystal Palace | 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 |
| LOBELIA <i>Lobelia erinus</i> Rapid Series | 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 |
| LOBELIA <i>Lobelia erinus</i> Regatta Series | 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 |
| LOBELIA <i>Lobelia erinus</i> Riviera Series | 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 |

| STAGE 2 | STAGE 3 | STAGE 4 | KEY TIPS |
|---|--|--|--|
| (m) Level 2-4 (t) 64-73°F (18-23°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) 65-68°F (18-20°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. |
| (m) Level 2-4 (t) 64-73°F (18-23°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) 65-68°F (18-20°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. |
| (m) Level 4 (t) 72-77°F (22-25°C) (l) 450-700 f.c. (4,800-7,500 Lux) (f) Less than 100 ppm N (Less than 0.7 EC) (p) daminozide 2,500-5,000 ppm Spray or paclobutrazol 1 ppm Spray | (m) Level 3-4 (t) 65-72°F (18-22°C) (l) 450-700 f.c. (4,800-7,500 Lux) (f) Less than 100 ppm N (Less than 0.7 EC) (p) daminozide 2,500-5,000 ppm Spray | (m) Level 2-4 (t) 65-72°F (18-22°C) (l) 450-700 f.c. (4,800-7,500 Lux) (f) Less than 100 ppm N (Less than 0.7 EC) | Moisture levels surrounding the seed are very important in stage 1 and 2. Light is required for optimal germination, so is high relative humidity. A light cover of vermiculite may be beneficial to raise humidity around the seed. White Shimmer may be 2 days slower. Avoid temperatures lower than 62°F/17°C. Temperatures at or above 85°F/29°C result in slower germination speed and lower germination results. In stage 3, repeat daminozide 2,500-5,000 ppm spray if necessary. |
| (m) Level 4 (t) 72-77°F (22-25°C) (l) 450-700 f.c. (4,800-7,500 Lux) (f) Less than 100 ppm N (Less than 0.7 EC) (p) daminozide 2,500-5,000 ppm Spray or paclobutrazol 1 ppm Spray | (m) Level 3-4 (t) 65-72°F (18-22°C) (l) 450-700 f.c. (4,800-7,500 Lux) (f) Less than 100 ppm N (Less than 0.7 EC) (p) daminozide 2,500-5,000 ppm Spray | (m) Level 2-4 (t) 65-72°F (18-22°C) (l) 450-700 f.c. (4,800-7,500 Lux) (f) Less than 100 ppm N (Less than 0.7 EC) | Moisture levels surrounding the seed are very important in stage 1 and 2. Light is required for optimal germination, so is high relative humidity. A light cover of vermiculite may be beneficial to raise humidity around the seed. Avoid temperatures lower than 62°F/17°C. Temperatures at or above 85°F/29°C result in slower germination speed and lower germination results. In stage 3, repeat daminozide 2,500-5,000 ppm spray if necessary. |
| (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. |
| (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. |
| (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) | |
| (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) | |
| (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) | |
| (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) | |

(m) moisture (t) temperature (l) light (f) fertilizer (p) plant growth regulators

| CLASS/SERIES | SEED FORM | RECOMMENDED PLUG SIZE | PLUG CROP WEEKS | SEEDS/ CELL | COVER SEED | DAYS FROM 50% TO MAXIMUM GERMINATION | INITIAL MEDIA PH/EC (1:2) | STAGE 1 |
|---|-------------|-----------------------|-----------------|-------------|------------|--------------------------------------|-----------------------------|--|
| MARIGOLD (AFRICAN) <i>Tagetes erecta</i> Marvel II™ F₁ Series | 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 |
| MARIGOLD (AFRICAN) <i>Tagetes erecta</i> Taishan® F₁ Series | 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 |
| MARIGOLD (AFRICAN) <i>Tagetes erecta</i> Vanilla F₁ | 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 |
| MARIGOLD (FRENCH) <i>Tagetes patula</i> Bonanza™ Series | 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 |
| MARIGOLD (FRENCH) <i>Tagetes patula</i> Durango® Series | 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 |
| MARIGOLD (FRENCH) <i>Tagetes patula</i> Fireball | 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 |
| MARIGOLD (FRENCH) <i>Tagetes patula</i> Flamenco | 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 |
| MARIGOLD (FRENCH) <i>Tagetes patula</i> Hot Pak™ Series | 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 |
| MARIGOLD (FRENCH) <i>Tagetes patula</i> Janie Series | 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 |
| MARIGOLD (FRENCH) <i>Tagetes patula</i> Strawberry Blonde | 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 |
| NEMESIA <i>Nemesia foetans</i> Poetry™ F₁ Series | 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 |
| NEMESIA <i>Nemesia strumosa</i> Sundrops Mixture | 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 |
| ORNAMENTAL MILLET <i>Pennisetum glaucum</i> Copper Prince F₁ | 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 |

| STAGE 2 | STAGE 3 | STAGE 4 | KEY TIPS |
|--|--|---|--|
| (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. |
| (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. |
| (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. |
| (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. |
| (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. |
| (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. |
| (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. |
| (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. |
| (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. |
| (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. |
| (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. |
| | | | Grow cool, with an optimum temperature of 55°F (13°C). |
| (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. |

(m) moisture (t) temperature (l) light (f) fertilizer (p) plant growth regulators

| CLASS/SERIES | SEED FORM | RECOMMENDED PLUG SIZE | PLUG CROP WEEKS | SEEDS/ CELL | COVER SEED | DAYS FROM 50% TO MAXIMUM GERMINATION | INITIAL MEDIA PH/EC (1:2) | STAGE 1 |
|--|-------------|-----------------------|-----------------|-------------|------------|--------------------------------------|-----------------------------|--|
| ORNAMENTAL MILLET <i>Pennisetum glaucum</i> Jade Princess F₁ | 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 |
| ORNAMENTAL MILLET <i>Pennisetum glaucum</i> Jester F₁ | 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 |
| ORNAMENTAL MILLET <i>Pennisetum glaucum</i> Purple Baron F₁ | 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 |
| ORNAMENTAL MILLET <i>Pennisetum glaucum</i> Purple Majesty | 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 |
| ORNAMENTAL MINT <i>Mentha requienii</i> Mini Mint | 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 |
| ORNAMENTAL OREGANO <i>Origanum x hybrida</i> Kirigami | 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 |
| OSTEOSPERMUM <i>Osteospermum ecklonis</i> Akila® F₁ Series | 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 |
| PANSY <i>Viola x wittrockiana</i> Frizzle Sizzle F₁ Series | 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 |
| PANSY <i>Viola x wittrockiana</i> Matrix® F₁ Series | 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) |
| PANSY <i>Viola x wittrockiana</i> Panola® XP F₁ Series | 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 |

| STAGE 2 | STAGE 3 | STAGE 4 | KEY TIPS |
|--|--|--|---|
| (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) | 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. |
| (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. |
| (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. |
| (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. |
| (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. |
| (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. |
| (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) (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. |
| (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. |
| (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). |
| (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. |

(m) moisture (t) temperature (l) light (f) fertilizer (p) plant growth regulators

| CLASS/SERIES | SEED FORM | RECOMMENDED PLUG SIZE | PLUG CROP WEEKS | SEEDS/ CELL | COVER SEED | DAYS FROM 50% TO MAXIMUM GERMINATION | INITIAL MEDIA PH/EC (1:2) | STAGE 1 |
|--|-------------|-----------------------|-----------------|-------------|------------|--------------------------------------|-----------------------------|--|
| PANSY <i>Viola x wittrockiana</i> Spring Matrix™ F₁ Series | 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 |
| PANSY (SPREADING) <i>Viola x wittrockiana</i> Cool Wave® F₁ Series | 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 |
| PENTAS <i>Pentas lanceolata</i> Butterfly™ F₁ Series | 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 |
| PENTAS <i>Pentas lanceolata</i> Glitterati™ F₁ Series | 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 |

| STAGE 2 | STAGE 3 | STAGE 4 | KEY TIPS |
|---|---|---|--|
| <p>(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)</p> | <p>(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</p> | <p>(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</p> | <p>Adjust PGR rates and frequency of application depending on local conditions in Stages 3 and 4.</p> |
| <p>(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)</p> | <p>(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</p> | <p>(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</p> | <p>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.</p> |
| <p>(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)</p> | <p>(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</p> | <p>(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</p> | <p>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.</p> |
| <p>(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)</p> | <p>(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</p> | <p>(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</p> | <p>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.</p> |

(m) moisture (t) temperature (l) light (f) fertilizer (p) plant growth regulators

| CLASS/SERIES | SEED FORM | RECOMMENDED PLUG SIZE | PLUG CROP WEEKS | SEEDS/ CELL | COVER SEED | DAYS FROM 50% TO MAXIMUM GERMINATION | INITIAL MEDIA PH/EC (1:2) | STAGE 1 |
|---|-------------|-----------------------|-----------------|-------------|-------------|--------------------------------------|---------------------------------|--|
| PENTAS <i>Pentas lanceolata</i> Lucky Star® F₁ Series | 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 |
| PEPPER (ORNAMENTAL) <i>Capsicum annuum</i> Black Pearl | 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 |
| PEPPER (ORNAMENTAL) <i>Capsicum annuum</i> Calico F₁ | 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 |
| PEPPER (ORNAMENTAL) <i>Capsicum annuum</i> Midnight Fire | 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 |
| PEPPER (ORNAMENTAL) <i>Capsicum annuum</i> Purple Flash | 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 |
| PEPPER (ORNAMENTAL) <i>Capsicum annuum</i> Sangria F₁ | 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 |
| PEPPER (ORNAMENTAL) <i>Capsicum annuum</i> Sedona Sun | 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 |
| PETUNIA <i>Petunia x hybrida</i> Daddy® F₁ Series | 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 |

| STAGE 2 | STAGE 3 | STAGE 4 | KEY TIPS |
|--|---|--|--|
| <p>(m) Level 3-4 (t) 75°F (24°C) (l) 4-6 mol·m⁻²·d⁻¹, 1,500-2,000 f.c. (16,100-21,500 Lux) (f) Less than 100 ppm N (Less than 0.7 EC)</p> | <p>(m) Level 2-4 (t) 68-75°F (20-24°C) (l) 6-8 mol·m⁻²·d⁻¹, 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</p> | <p>(m) Level 2-4 (t) 65-70°F (18-21°C) (l) 10-12 mol·m⁻²·d⁻¹, 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</p> | <p>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.</p> |
| <p>(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)</p> | <p>(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</p> | <p>(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)</p> | <p>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.</p> |
| <p>(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)</p> | <p>(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</p> | <p>(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)</p> | <p>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.</p> |
| <p>(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)</p> | <p>(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</p> | <p>(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)</p> | <p>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.</p> |
| <p>(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)</p> | <p>(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</p> | <p>(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)</p> | <p>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.</p> |
| <p>(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)</p> | <p>(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</p> | <p>(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)</p> | <p>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.</p> |
| <p>(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)</p> | <p>(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</p> | <p>(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)</p> | <p>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.</p> |
| <p>(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)</p> | <p>(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</p> | <p>(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</p> | |

(m) moisture (t) temperature (l) light (f) fertilizer (p) plant growth regulators

| CLASS/SERIES | SEED FORM | RECOMMENDED PLUG SIZE | PLUG CROP WEEKS | SEEDS/ CELL | COVER SEED | DAYS FROM 50% TO MAXIMUM GERMINATION | INITIAL MEDIA PH/EC (1:2) | STAGE 1 |
|--|-------------|-----------------------|-----------------|-------------|------------|--------------------------------------|---------------------------------|---|
| PETUNIA <i>Petunia x hybrida</i> Debonair™ F₁ Series | 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 |
| PETUNIA <i>Petunia x hybrida</i> Dreams™ F₁ Series | 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 |
| PETUNIA <i>Petunia x hybrida</i> Ez Rider® F₁ Series | 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 |
| PETUNIA <i>Petunia x hybrida</i> Lo Rider™ F₁ Series | 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 |
| PETUNIA <i>Petunia x hybrida</i> Madness® F₁ Series | 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 |
| PETUNIA <i>Petunia x hybrida</i> Mirage F₁ Series | 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 |
| PETUNIA <i>Petunia x hybrida</i> Pretty Flora™ F₁ Series | 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 |
| PETUNIA <i>Petunia x hybrida</i> Pretty Grand™ F₁ Series | 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 |
| PETUNIA <i>Petunia x hybrida</i> Sophistica® F₁ Series | 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 |

| STAGE 2 | STAGE 3 | STAGE 4 | KEY TIPS |
|--|---|---|--|
| (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. |
| (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 | |
| (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. |
| (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. |
| (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 | |
| (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 | |
| (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. |
| (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. |
| (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. |

(m) moisture (t) temperature (l) light (f) fertilizer (p) plant growth regulators

| CLASS/SERIES | SEED FORM | RECOMMENDED PLUG SIZE | PLUG CROP WEEKS | SEEDS/ CELL | COVER SEED | DAYS FROM 50% TO MAXIMUM GERMINATION | INITIAL MEDIA PH/EC (1:2) | STAGE 1 |
|--|-----------|-----------------------|-----------------|-------------|------------|--------------------------------------|---------------------------------|--|
| PETUNIA <i>Petunia x hybrida</i> Supercascade F₁ Series | 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 |
| PETUNIA (DOUBLE) <i>Petunia x hybrida</i> Double Cascade F₁ Series | 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 |
| PETUNIA (DOUBLE) <i>Petunia x hybrida</i> Double Madness™ F₁ Series | 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 |
| PETUNIA (DOUBLE) <i>Petunia x hybrida</i> Duo F₁ Series | 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 |
| PETUNIA (DOUBLE) <i>Petunia x hybrida</i> Glorious F₁ Series | 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 |
| PETUNIA (DOUBLE) <i>Petunia x hybrida</i> Pirouette F₁ Series | 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 |
| PETUNIA (SPREADING) <i>Petunia x hybrida</i> E3 Easy Wave™ F₁ Series | 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 |
| PETUNIA (SPREADING) <i>Petunia x hybrida</i> Easy Wave® F₁ Series | 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 |
| PETUNIA (SPREADING) <i>Petunia x hybrida</i> Shock Wave® F₁ Series | 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 |

| STAGE 2 | STAGE 3 | STAGE 4 | KEY TIPS |
|--|---|---|--|
| (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 | |
| (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) | (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) | Germination on some varieties may be improved by a 25 to 50 ppm N application of potassium nitrate after sowing. |
| (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) | (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) | Germination on some varieties may be improved by a 25 to 50 ppm N application of potassium nitrate after sowing. |
| (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) 68-70°F (20-21°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) | (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) | Germination on some varieties may be improved by a 25 to 50 ppm N application of potassium nitrate after sowing. |
| (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) | (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) | Germination on some varieties may be improved by a 25 to 50 ppm N application of potassium nitrate after sowing. |
| (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) | (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) | Germination on some varieties may be improved by a 25 to 50 ppm N application of potassium nitrate after sowing. |
| (m) Level 3-4 (t) 68-75°F (20-24°C) (l) 6 mol·m ⁻² ·d ⁻¹ , 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 ⁻² ·d ⁻¹ , 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 ⁻² ·d ⁻¹ , 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 | |
| (m) Level 3-4 (t) 68-75°F (20-24°C) (l) 6 mol·m ⁻² ·d ⁻¹ , 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 ⁻² ·d ⁻¹ , 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 ⁻² ·d ⁻¹ , 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 | |
| (m) Level 3-4 (t) 68-75°F (20-24°C) (l) 6 mol·m ⁻² ·d ⁻¹ , 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 ⁻² ·d ⁻¹ , 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 ⁻² ·d ⁻¹ , 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 | |

(m) moisture (t) temperature (l) light (f) fertilizer (p) plant growth regulators

| CLASS/SERIES | SEED FORM | RECOMMENDED PLUG SIZE | PLUG CROP WEEKS | SEEDS/ CELL | COVER SEED | DAYS FROM 50% TO MAXIMUM GERMINATION | INITIAL MEDIA PH/EC (1:2) | STAGE 1 |
|---|-------------|-----------------------|-----------------|-------------|-------------|--------------------------------------|-----------------------------|--|
| PETUNIA (SPREADING) <i>Petunia x hybrida</i> Tidal Wave® F₁ Series | 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 |
| PETUNIA (SPREADING) <i>Petunia x hybrida</i> Wave® F₁ Series | 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 |
| PHLOX <i>Phlox drummondii</i> 21st Century F₁ Series | 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 |
| PLECTRANTHUS <i>Plectranthus argentatus</i> Silver Crest | 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 |
| PLECTRANTHUS <i>Plectranthus argentatus</i> Silver Shield | 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 |
| PORTULACA <i>Portulaca grandiflora</i> Happy Hour™ F₁ Series | 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 |
| PORTULACA <i>Portulaca grandiflora</i> Happy Trails™ F₁ Series | 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 |
| PRIMULA <i>Primula acaulis</i> Heritage Crème F₁ | 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 |
| PRIMULA <i>Primula acaulis</i> Primlet® Series | 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 |
| PURSLANE <i>Portulaca oleracea</i> Toucan Series | 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 |
| RUPELLIA <i>Ruellia brittoniana</i> (<i>Ruellia tweediana</i>) Southern Star Series | 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 |

| STAGE 2 | STAGE 3 | STAGE 4 | KEY TIPS |
|---|--|--|--|
| (m) Level 3-4 (t) 68-75°F (20-24°C) (l) 6 mol·m ⁻² ·d ⁻¹ , 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 ⁻² ·d ⁻¹ , 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 ⁻² ·d ⁻¹ , 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 | |
| (m) Level 3-4 (t) 68-75°F (20-24°C) (l) 6 mol·m ⁻² ·d ⁻¹ , 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 ⁻² ·d ⁻¹ , 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 ⁻² ·d ⁻¹ , 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 | |
| (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. |
| (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. |
| (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. |
| (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. |
| (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. |
| (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. |
| (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. |
| (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) | |
| (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) | |

(m) moisture (t) temperature (l) light (f) fertilizer (p) plant growth regulators

| CLASS/SERIES | SEED FORM | RECOMMENDED PLUG SIZE | PLUG CROP WEEKS | SEEDS/ CELL | COVER SEED | DAYS FROM 50% TO MAXIMUM GERMINATION | INITIAL MEDIA PH/EC (1:2) | STAGE 1 |
|---|-----------|-----------------------|-----------------|-------------|-------------|--------------------------------------|-----------------------------|--|
| SALVIA <i>Salvia canariensis</i> Lancelot | RAW | 288 | 4-5 | 1 | No | 3-5 | 5.5-5.8 pH 0.75 mmhos/cm | (m) Level 4 (t) 68-72°F (20-22°C) (l) Optional |
| SALVIA <i>Salvia splendens</i> Lighthouse Series | 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 |
| SALVIA <i>Salvia splendens</i> Red Hot Sally II | 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 |
| SALVIA <i>Salvia splendens</i> Scarlet King | 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 |
| SALVIA <i>Salvia splendens</i> Vista™ Series | 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 |
| SALVIA INTERSPECIFIC <i>Salvia longispicata x farinacea</i> Big Blue | 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 |
| SNAPDRAGON <i>Antirrhinum majus</i> Rocket F₁ Series | 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 |
| SNAPDRAGON <i>Antirrhinum majus</i> Snapshot™ F₁ Series | 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 |
| STOCK <i>Matthiola incana</i> Hot Cakes Series | 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 |
| THUNBERGIA <i>Thunbergia alata</i> Susie™ Series | 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 |

| STAGE 2 | STAGE 3 | STAGE 4 | KEY TIPS |
|--|---|---|--|
| (m) Level 3-4 (t) 59-68°F (15-20°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) 59-68°F (15-20°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 2-4 (t) 59-68°F (15-20°C) (l) 3,000 f.c. (32,300 Lux) (f) Less than 100 ppm N (Less than 0.7 EC) | Maintain level 4 moisture during Stage 1. Saturated media (level 5) can reduce germination. Daminozide 2,500 ppm spray or paclobutrazol 5 ppm spray are equally effective on <i>Salvia canariensis</i> plugs. Apply in Stage 3 and repeat if necessary to control stretch. |
| (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) | <i>Salvia</i> is very sensitive to high salt during early plug stages. |
| (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) | <i>Salvia</i> is very sensitive to high salt during early plug stages. |
| (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) | <i>Salvia</i> is very sensitive to high salt during early plug stages. |
| (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) | <i>Salvia</i> is very sensitive to high salt during early plug stages. |
| (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) | <i>Salvia</i> 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. Lighting the plug when growing under low DLI and short days (with supplemental and daylength extension) will hasten flower initiation. |
| (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) | |
| (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. |
| (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. |
| (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. |

(m) moisture (t) temperature (l) light (f) fertilizer (p) plant growth regulators

| CLASS/SERIES | SEED FORM | RECOMMENDED PLUG SIZE | PLUG CROP WEEKS | SEEDS/ CELL | COVER SEED | DAYS FROM 50% TO MAXIMUM GERMINATION | INITIAL MEDIA PH/EC (1:2) | STAGE 1 |
|--|-------------|-----------------------|-----------------|-------------|------------|--------------------------------------|--------------------------------|--|
| TORENIA <i>Torenia fournieri</i> Kauai™ Series | 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 |
| VERBENA <i>Verbena x hybrida</i> Quartz Series | 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 |
| VERBENA <i>Verbena x hybrida</i> Quartz XP Series | 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 |
| VINCA <i>Catharanthus roseus</i> Mediterranean XP Series | RAW | 288 | 5 | 1 | Yes | 3-5 | 5.8-6.0 pH 0.75 mmhos/cm | (m) Level 4 (t) 72-75°F (22-24°C) (l) Optional |
| VINCA <i>Catharanthus roseus</i> Pacifica XP Series | 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 |
| VINCA <i>Catharanthus roseus</i> Tattoo™ Series | 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 |
| VINCA <i>Catharanthus roseus</i> Titan™ F₁ Series | 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 |
| VINCA <i>Catharanthus roseus</i> Valiant™ F₁ Series | 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 |
| VIOLA <i>Viola cornuta</i> Frizzle Sizzle Mini F₁ Series | 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 |
| VIOLA <i>Viola cornuta</i> Quicktime™ F₁ Series | PRM | 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 |

| STAGE 2 | STAGE 3 | STAGE 4 | KEY TIPS |
|---|---|---|---|
| <p>(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)</p> | <p>(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)</p> | <p>(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)</p> | |
| <p>(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)</p> | <p>(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)</p> | <p>(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)</p> | <p>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.</p> |
| <p>(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)</p> | <p>(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)</p> | <p>(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)</p> | <p>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.</p> |
| <p>(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)</p> | <p>(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)</p> | <p>(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)</p> | <p>Bottom heat during production can increase yield potential and decrease crop time.</p> |
| <p>(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)</p> | <p>(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) (p) ancymidol 2-5 ppm Spray</p> | <p>(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) (p) ancymidol 2-5 ppm Spray</p> | <p>Bottom heat during production can increase yield potential and decrease crop time. At Stage 3 and Stage 4, preventive fungicide applications are recommended for Thielaviopsis, Pythium, Phytophthora and Rhizoctonia. Growth Regulator information is provided for reference and does not apply to all growing condition/locations. Review your crop prior to use.</p> |
| <p>(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)</p> | <p>(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) (p) ancymidol 2-5 ppm Spray</p> | <p>(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) (p) ancymidol 2-5 ppm Spray</p> | <p>Bottom heat during production can increase yield potential and decrease crop time. At Stage 3 and Stage 4, preventive fungicide applications are recommended for Thielaviopsis, Pythium, Phytophthora and Rhizoctonia. Growth Regulator information is provided for reference and does not apply to all growing condition/locations. Review your crop prior to use.</p> |
| <p>(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)</p> | <p>(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)</p> | <p>(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)</p> | <p>Bottom heat during production can increase yield potential and decrease crop time.</p> |
| <p>(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)</p> | <p>(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) (p) ancymidol 2-5 ppm Spray</p> | <p>(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) (p) ancymidol 2-5 ppm Spray</p> | <p>Bottom heat during production can increase yield potential and decrease crop time. At Stage 3 and Stage 4 preventive fungicide applications are recommended for Thielaviopsis, Pythium, Phytophthora and Rhizoctonia. Growth Regulator information is provided for reference and does not apply to all growing condition/locations. Review your crop prior to use.</p> |
| <p>(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)</p> | <p>(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</p> | <p>(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</p> | <p>Adjust PGR rates and frequency of application depending on local conditions in Stages 3 and 4.</p> |
| <p>(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)</p> | <p>(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</p> | <p>(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</p> | <p>Adjust PGR rates and frequency of application depending on local conditions in Stages 3 and 4</p> |

(m) moisture (t) temperature (l) light (f) fertilizer (p) plant growth regulators

| CLASS/SERIES | SEED FORM | RECOMMENDED PLUG SIZE | PLUG CROP WEEKS | SEEDS/ CELL | COVER SEED | DAYS FROM 50% TO MAXIMUM GERMINATION | INITIAL MEDIA PH/EC (1:2) | STAGE 1 |
|--|-------------|-----------------------|-----------------|-------------|-------------|--------------------------------------|-----------------------------|--|
| VIOLA <i>Viola cornuta</i> Sorbet® F Series | 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 |
| VIOLA <i>Viola cornuta</i> Sorbet® XP F Series | 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 |
| ZINNIA <i>Zinnia marylandica</i> Double Zahara™ Series | 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 |
| ZINNIA <i>Zinnia angustifolia</i> Star Series | 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>) State Fair Series | 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> Zahara® Series | 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 |
| ZINNIA <i>Zinnia elegans</i> (syn. <i>Zinnia violaceae</i>) Zesty™ Series | COT | 288 | 3-4 | 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 |

| | STAGE 2 | STAGE 3 | STAGE 4 | KEY TIPS |
|--|---|---|---|---|
| | <p>(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)</p> | <p>(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</p> | <p>(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</p> | <p>Adjust PGR rates and frequency of application depending on local conditions in Stages 3 and 4.</p> |
| | <p>(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)</p> | <p>(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</p> | <p>(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</p> | <p>Adjust PGR rates and frequency of application depending on local conditions in Stages 3 and 4.</p> |
| | <p>(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)</p> | <p>(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</p> | <p>(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)</p> | <p>Avoid excessive moisture on plants and flowers. Monitor for Botrytis.</p> |
| | | | | |
| | <p>(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)</p> | <p>(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</p> | <p>(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)</p> | <p>Avoid excessive moisture on plants and flowers. Monitor for Botrytis.</p> |
| | <p>(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)</p> | <p>(m) Level 3-4 (t) 68-75°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 2,500 ppm Spray</p> | <p>(m) Level 3-4 (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) (p) daminozide 2,500 ppm Spray</p> | <p>Do not hold the plugs too long, as this may cause delay in flowering.</p> |

(m) moisture (t) temperature (l) light (f) fertilizer (p) plant growth regulators

| CLASS/SERIES | RECOMMENDED PLUG SIZE | GROWING ON TEMPERATURE (DAYS/NIGHTS) | TARGET MEDIA PH/EC (1:2) | DAYLENGTH |
|---|-----------------------|--|--------------------------------|---|
| AGERATUM <i>Ageratum houstonianum</i> High Tide™ F₁ Series | 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 |
| ALTERNANTHERA <i>Alternanthera dentata</i> Purple Knight | 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 |
| ALTERNANTHERA <i>Alternanthera brasiliana</i> Purple Prince | 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 |
| ALYSSUM <i>Lobularia maritima</i> Clear Crystal® Series | 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 |
| ALYSSUM <i>Lobularia maritima</i> Easter Bonnet Series | 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 |
| ALYSSUM <i>Lobularia maritima</i> Snow Crystals | 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 |
| ANGELONIA <i>Angelonia angustifolia</i> Serena® F₁ Series | 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 |
| ANGELONIA <i>Angelonia angustifolia</i> Serenita® F₁ Series | 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 |
| BACOPA <i>Sutera cordata</i> Blutopia® F₁ | 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 |
| BACOPA <i>Sutera cordata</i> Pinktopia F₁ | 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 |
| BACOPA <i>Sutera cordata</i> Snowtopia® F₁ | 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 |
| BEGONIA <i>Begonia x hybrida</i> BabyWing® F₁ Series | 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 |
| BEGONIA <i>Begonia x hybrida</i> Dragon Wing® F₁ Series | 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. |
| BEGONIA <i>Begonia x hybrida</i> Gryphon | 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. |

| FINISHING PROGRAMS | KEY TIPS |
|--|--|
| <p>306 Pack/1801, 1 (ppp), 7-9 (weeks), Late Spring, PGR daminozide 2,500-3,500 ppm Spray 4"/4.5"/Quart/10 cm, 1 (ppp), 7-9 (weeks), Late Spring, PGR daminozide 2,500-3,500 ppm Spray 5"/6"/1 Gallon/15 cm, 1-3 (ppp), 7-9 (weeks), Late Spring, PGR daminozide 2,500-3,500 ppm Spray</p> | |
| <p>306 Pack/1801, 1 (ppp), 7-8 (weeks), Spring, PGR daminozide 2,500-5,000 ppm Spray 306 Pack/1801, 1 (ppp), 7-8 (weeks), Spring, PGR paclobutrazol 15-20 ppm Spray 4"/4.5"/Quart/10 cm, 1 (ppp), 7-8 (weeks), Spring, PGR daminozide 2,500-5,000 ppm Spray 4"/4.5"/Quart/10 cm, 1 (ppp), 7-8 (weeks), Spring, PGR paclobutrazol 15-20 ppm Spray 5"/6"/1 Gallon/15 cm, 3 (ppp), 8-9 (weeks), Spring, PGR daminozide 2,500-5,000 ppm Spray 5"/6"/1 Gallon/15 cm, 3 (ppp), 8-9 (weeks), Spring, PGR paclobutrazol 15-20 ppm Spray</p> | <p>Grow plants with daylength longer than 12 hours to maintain vegetative growth. Growing under high light conditions will result in deeper purple foliage.</p> |
| <p>306 Pack/1801, 1 (ppp), 7-8 (weeks), Spring, PGR daminozide 2,500-5,000 ppm Spray 306 Pack/1801, 1 (ppp), 7-8 (weeks), Spring, PGR paclobutrazol 15-20 ppm Spray 4"/4.5"/Quart/10 cm, 1 (ppp), 7-8 (weeks), Spring, PGR daminozide 2,500-5,000 ppm Spray 4"/4.5"/Quart/10 cm, 1 (ppp), 7-8 (weeks), Spring, PGR paclobutrazol 15-20 ppm Spray 5"/6"/1 Gallon/15 cm, 3 (ppp), 8-9 (weeks), Spring, PGR daminozide 2,500-5,000 ppm Spray 5"/6"/1 Gallon/15 cm, 3 (ppp), 8-9 (weeks), Spring, PGR paclobutrazol 15-20 ppm Spray</p> | <p>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.</p> |
| <p>306 Pack/1801, 1 (ppp), 4-6 (weeks), Late Spring 4"/4.5"/Quart/10 cm, 1 (ppp), 7 (weeks), Late Spring</p> | <p>Cool-season crop can be grown with little or no heat. Grow outdoors or at cool night temperatures for best colour development.</p> |
| <p>Cell Pack, 1 (ppp), 5 (weeks), Late Spring</p> | <p>Drench with a fungicide at transplant. Cool-season crop can be grown with little or no heat. Grow outdoors or at cool night temperatures for best colour development.</p> |
| <p>306 Pack/1801, 1 (ppp), 6-7 (weeks), Late Spring 4"/4.5"/Quart/10 cm, 1 (ppp), 6-7 (weeks), Late Spring</p> | <p>Cool-season crop can be grown with little or no heat. Grow outdoors or at cool night temperatures for best colour development.</p> |
| <p>306 Pack/1801, 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/10 cm, 1 (ppp), 9-10 (weeks), Late Spring, PGR daminozide/chlormequat chloride tank mix 2,500/750-2,500/1,000 ppm Spray</p> | <p>Angelonia grows slowly when the temperature is below 64°F (18°C). Recommended DLI range of 12 to 24 mol·m⁻²·d⁻¹. If growing in warmer climates, a paclobutrazol drench of 5-10 ppm can be applied 2 weeks after transplant instead of the daminozide/chlormequat chloride tank mix. Do not pinch plants. Pinching will result in uneven plant habit and a delay of flowering.</p> |
| <p>306 Pack/1801, 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/10 cm, 1 (ppp), 9-10 (weeks), Late Spring, PGR daminozide/chlormequat chloride tank mix 2,500/500-2,500/750 ppm Spray</p> | <p>Angelonia grows slowly when the temperature is below 64°F (18°C). Recommended DLI range of 12 to 24 mol·m⁻²·d⁻¹. 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/chlormequat chloride tank mix. Do not pinch plants. Pinching will result in uneven plant habit and a delay of flowering.</p> |
| <p>4"/4.5"/Quart/10 cm, 1 (ppp), 4-6 (weeks), Spring, PGR daminozide 2,500 ppm Spray 10" Pot or HB/3 Gallon/25 cm, 5-6 (ppp), 8-9 (weeks), Spring, PGR daminozide 2,500 ppm Spray</p> | <p>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.</p> |
| <p>4"/4.5"/Quart/10 cm, 1 (ppp), 4-6 (weeks), Spring, PGR daminozide 2,500 ppm Spray 10" Pot or HB/3 Gallon/25 cm, 5-6 (ppp), 8-9 (weeks), Spring, PGR daminozide 2,500 ppm Spray</p> | <p>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.</p> |
| <p>4"/4.5"/Quart/10 cm, 1 (ppp), 4-6 (weeks), Spring, PGR daminozide 2,500 ppm Spray 10" Pot or HB/3 Gallon/25 cm, 5-6 (ppp), 8-9 (weeks), Spring, PGR daminozide 2,500 ppm Spray</p> | <p>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.</p> |
| <p>4"/4.5"/Quart/10 cm, 1 (ppp), 6-8 (weeks), Spring 5"/6"/1 Gallon/15 cm, 1-2 (ppp), 6-8 (weeks), Spring 12" Pot or HB/5 Gallon/30 cm, 3-4 (ppp), 6-8 (weeks), Spring</p> | <p>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.</p> |
| <p>5"/6"/1 Gallon/15 cm, 1 (ppp), 7-9 (weeks), Late Spring 8"/2 Gallon/20 cm, 3 (ppp), 8-10 (weeks), Late Spring</p> | <p>Dragon Wing will flower faster under short day conditions. After transplant, use Bonzi 3 to 5 ppm spray for height control when needed.</p> |
| <p>4"/4.5"/Quart/10 cm, 1 (ppp), 5-6 (weeks), Summer 5"/6"/1 Gallon/15 cm, 2-3 (ppp), 5-6 (weeks), Summer 8"/2 Gallon/20 cm, 3 (ppp), 7-8 (weeks), Summer 12" Pot or HB/5 Gallon/30 cm, 3-4 (ppp), 9-11 (weeks), Summer</p> | <p>To avoid flowering as a foliage plant, grow under daylength longer than 11 hours.</p> |

| CLASS/SERIES | RECOMMENDED PLUG SIZE | GROWING ON TEMPERATURE (DAYS/NIGHTS) | TARGET MEDIA PH/EC (1:2) | DAYLENGTH |
|--|-----------------------|--|--------------------------------|---|
| BEGONIA <i>Begonia interspecific</i> Megawatt™ F. Series | 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 |
| BEGONIA (SPREADING) <i>Begonia interspecific</i> Hula™ Series | 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 |
| BEGONIA (TUBEROUS) <i>Begonia x tuberosa</i> AmeriHybrid® Picotee F. Series | 288 | (day) 70-72°F (21-22°C) (night) 62-68°F (17-20°C) | 5.5-5.8 pH 1.0-1.5 mmhos/cm | Obligate Long Day Maintain minimum of 14-hour photoperiod of light for active growth. A photoperiod of less than 12 hours will result in small single flowers and an uneven crop, and plants will form tubers. |
| BEGONIA (TUBEROUS) <i>Begonia x tuberosa</i> AmeriHybrid® Ruffled F. Series | 288 | (day) 70-72°F (21-22°C) (night) 62-68°F (17-20°C) | 5.5-5.8 pH 1.0-1.5 mmhos/cm | Obligate Long Day Maintain a minimum of 14-hour photoperiod of light for active growth. A photoperiod of less than 12 hours will result in small single flowers and an uneven crop, and plants will form tubers. |
| BEGONIA (TUBEROUS) <i>Begonia x tuberosa</i> On Top® F. Series | 288 | (day) 70-72°F (21-22°C) (night) 62-68°F (17-20°C) | 5.5-5.8 pH 1.0-1.5 mmhos/cm | Obligate Long Day Maintain a minimum of 14-hour photoperiod of light for active growth. A photoperiod of less than 12 hours will result in small single flowers and an uneven crop, and plants will form tubers. |
| BEGONIA (TUBEROUS) <i>Begonia x tuberosa</i> Sun Dancer™ F. Series | 288 | (day) 70-72°F (21-22°C) (night) 62-68°F (17-20°C) | 5.5-5.8 pH 1.0-1.5 mmhos/cm | Obligate Long Day Maintain a minimum of 14-hour photoperiod of light for active growth. A photoperiod of less than 12 hours will result in small single flowers and an uneven crop, and plants will form tubers. |
| CELOSIA <i>Celosia cristata</i> Dracula | 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. |
| CELOSIA <i>Celosia plumosa</i> First Flame™ Series | 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 |
| CELOSIA <i>Celosia plumosa</i> Ice Cream Series | 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 |
| CELOSIA FOLIAGE, SOL™ <i>Celosia argentea</i> Gekko Green | 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 |
| CELOSIA FOLIAGE, SOL™ <i>Celosia argentea</i> Lizzard Leaf | 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 |
| COLEUS <i>Solenostemon scutellarioides</i> Black Dragon | 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 |
| COLEUS <i>Solenostemon scutellarioides</i> Wizard® Series | 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 |

| FINISHING PROGRAMS | KEY TIPS |
|---|---|
| <p>5"/6"/1 Gallon/15 cm, 1 (ppp), 7-9 (weeks), Late Spring 5"/6"/1 Gallon/15 cm, 1 (ppp), 7-10 (weeks), Summer 12" Pot or HB/5 Gallon/30 cm, 3 (ppp), 9-11 (weeks), Summer</p> | <p>All Megawatt varieties flower faster under daylength of 12 hours or shorter. Longer daylength could delay flowering 4 to 7 days for all Megawatt varieties. If necessary, it is effective to spray paclobutrazol at 2 to 5 ppm, depending on environmental conditions, plant growing stage, and varieties for Megawatt plant size control. Repeat as needed.</p> |
| <p>306 Pack/1801, 1 (ppp), 6-8 (weeks), Spring 4"/4.5"/Quart/10 cm, 1 (ppp), 6-8 (weeks), Spring 5"/6"/1 Gallon/15 cm, 1-2 (ppp), 6-8 (weeks), Spring 12" Pot or HB/5 Gallon/30 cm, 3-4 (ppp), 8-10 (weeks), Spring</p> | <p>Growers can use PGRs on Begonia Hula only when necessary. Hula responds well to a tank mix of daminozide (B-Nine/Alar) and Clormequat (CCC). Daminozide (B-Nine/Alar) 2,500 ppm. Clormequat (CCC) 150 ppm and 300 ppm. We do not advise the use of Bonzi, as it could cause stunting in the plants.</p> |
| <p>5"/6"/1 Gallon/15 cm, 1 (ppp), 11-13 (weeks), Spring, PGR chlormequat chloride 300-500 ppm Spray 12" Pot or HB/5 Gallon/30 cm, 4 (ppp), 14-15 (weeks), Spring, PGR chlormequat chloride 300-500 ppm Spray</p> | <p>Do not overwater plants to prevent root issues. Keep humidity low (between 40 to 60%) to avoid problems with powdery mildew. For height control, a negative DIF of 2 to 3 degrees is very effective to prevent stretching of plants. When using a negative DIF, less to no PGRs are needed.</p> |
| <p>5"/6"/1 Gallon/15 cm, 1 (ppp), 11-13 (weeks), Spring, PGR chlormequat chloride 300-500 ppm Spray 12" Pot or HB/5 Gallon/30 cm, 4 (ppp), 14-15 (weeks), Spring, PGR chlormequat chloride 300-500 ppm Spray</p> | <p>Do not overwater plants to prevent root issues. Keep humidity low (between 40 to 60%) to avoid problems with powdery mildew. For height control, a negative DIF of 2 to 3 degrees is very effective to prevent stretching of plants. When using a negative DIF, less to no PGRs are needed.</p> |
| <p>4"/4.5"/Quart/10 cm, 1 (ppp), 8-9 (weeks), Spring, PGR chlormequat chloride 300-500 ppm Spray 5"/6"/1 Gallon/15 cm, 1 (ppp), 9-10 (weeks), Spring, PGR chlormequat chloride 300-500 ppm Spray 12" Pot or HB/5 Gallon/30 cm, 4 (ppp), 12-13 (weeks), Spring, PGR chlormequat chloride 300-500 ppm Spray</p> | <p>Do not overwater plants to prevent root issues. Keep humidity low (between 40 to 60%) to avoid problems with powdery mildew. For height control, a negative DIF of 2 to 3 degrees is very effective to prevent stretching of plants. When using a negative DIF, less to no PGRs are needed.</p> |
| <p>5"/6"/1 Gallon/15 cm, 1 (ppp), 9-10 (weeks), Spring, PGR chlormequat chloride 300-500 ppm Spray 10" Pot or HB/3 Gallon/25 cm, 3 (ppp), 12-13 (weeks), Spring, PGR chlormequat chloride 300-500 ppm Spray 12" Pot or HB/5 Gallon/30 cm, 4 (ppp), 12-13 (weeks), Spring, PGR chlormequat chloride 300-500 ppm Spray</p> | <p>Do not overwater plants to prevent root issues. Keep humidity low (between 40 to 60%) to avoid problems with powdery mildew. For height control, a negative DIF of 2 to 3 degrees is very effective to prevent stretching of plants. When using a negative DIF, less to no PGRs are needed.</p> |
| <p>5"/6"/1 Gallon/15 cm, 1 (ppp), 6-9 (weeks), Spring</p> | <p>Flowers fastest between 12 to 14-hour days.</p> |
| <p>5"/6"/1 Gallon/15 cm, 1 (ppp), 7-10 (weeks), Spring 5"/6"/1 Gallon/15 cm, 1 (ppp), 5-7 (weeks), Summer</p> | <p>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.</p> |
| <p>306 Pack/1801, 1 (ppp), 6-8 (weeks), Spring 4"/4.5"/Quart/10 cm, 1 (ppp), 7-9 (weeks), Spring 306 Pack/1801, 1 (ppp), 5-7 (weeks), Summer 4"/4.5"/Quart/10 cm, 1 (ppp), 5-7 (weeks), Summer</p> | <p>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.</p> |
| <p>5"/6"/1 Gallon/15 cm, 1 (ppp), 7-10 (weeks), Spring 5"/6"/1 Gallon/15 cm, 1 (ppp), 5-7 (weeks), Summer</p> | <p>Celosia Foliage do not need PGRs. Keep media constantly moist to prevent premature flowering. Foliage colour tends to be green when kept indoors, but more intense and turning more burgundy when the plant is left outdoors under higher light levels.</p> |
| <p>5"/6"/1 Gallon/15 cm, 1 (ppp), 7-10 (weeks), Spring 5"/6"/1 Gallon/15 cm, 1 (ppp), 5-7 (weeks), Summer</p> | <p>Celosia Foliage do not need PGRs. Keep media constantly moist to prevent premature flowering. Foliage colour tends to be green when kept indoors, but more intense and more burgundy-red when the plant is left outdoors under higher light levels.</p> |
| <p>Cell Pack, 1 (ppp), 5-6 (weeks), Spring</p> | <p>Ethephon can be applied to increase branching and control height.</p> |
| <p>306 Pack/1801, 1 (ppp), 4-5 (weeks), Spring 4"/4.5"/Quart/10 cm, 1 (ppp), 4-5 (weeks), Spring 5"/6"/1 Gallon/15 cm, 1 (ppp), 5-6 (weeks), Spring</p> | <p>Ethephon can be applied to increase branching and control height.</p> |

| CLASS/SERIES | RECOMMENDED PLUG SIZE | GROWING ON TEMPERATURE (DAYS/NIGHTS) | TARGET MEDIA PH/EC (1:2) | DAYLENGTH |
|---|-----------------------|--|--------------------------------|-----------------------|
| COLEUS, PREMIUM SHADE <i>Solenostemon scutellarioides</i> Kong Jr.™ Series | 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 |
| COLEUS, PREMIUM SHADE <i>Solenostemon scutellarioides</i> Kong® Series | 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 |
| COLEUS, PREMIUM SUN <i>Solenostemon scutellarioides</i> Chocolate Covered Cherry | 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 |
| COLEUS, PREMIUM SUN <i>Solenostemon scutellarioides</i> Chocolate Mint | 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 |
| COLEUS, PREMIUM SUN <i>Solenostemon scutellarioides</i> Crimson Gold | 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 |
| COLEUS, PREMIUM SUN <i>Solenostemon scutellarioides</i> Dark Chocolate | 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 |
| COLEUS, PREMIUM SUN <i>Solenostemon scutellarioides</i> Lime Delight | 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 |
| COLEUS, PREMIUM SUN <i>Solenostemon scutellarioides</i> Mighty Mosaic | 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 |
| COLEUS, PREMIUM SUN <i>Solenostemon scutellarioides</i> Pineapple Surprise | 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 |

| FINISHING PROGRAMS | KEY TIPS |
|--|---|
| <p>306 Pack/1801, 1 (ppp), 4-5 (weeks), Spring 4"/4.5"/Quart/10 cm, 1 (ppp), 4-5 (weeks), Spring 5"/6"/1 Gallon/15 cm, 1 (ppp), 5-6 (weeks), Spring</p> | <p>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.</p> |
| <p>306 Pack/1801, 1 (ppp), 4-5 (weeks), Spring 4"/4.5"/Quart/10 cm, 1 (ppp), 4-5 (weeks), Spring 5"/6"/1 Gallon/15 cm, 1 (ppp), 5-6 (weeks), Spring</p> | <p>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.</p> |
| <p>306 Pack/1801, 1 (ppp), 4-5 (weeks), Spring 4"/4.5"/Quart/10 cm, 1 (ppp), 4-5 (weeks), Spring 5"/6"/1 Gallon/15 cm, 1 (ppp), 5-6 (weeks), Spring</p> | <p>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.</p> |
| <p>306 Pack/1801, 1 (ppp), 4-5 (weeks), Spring 4"/4.5"/Quart/10 cm, 1 (ppp), 4-5 (weeks), Spring 5"/6"/1 Gallon/15 cm, 1 (ppp), 5-6 (weeks), Spring</p> | <p>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.</p> |
| <p>306 Pack/1801, 1 (ppp), 4-5 (weeks), Spring 4"/4.5"/Quart/10 cm, 1 (ppp), 4-5 (weeks), Spring 5"/6"/1 Gallon/15 cm, 1 (ppp), 5-6 (weeks), Spring</p> | <p>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.</p> |
| <p>306 Pack/1801, 1 (ppp), 4-5 (weeks), Spring 4"/4.5"/Quart/10 cm, 1 (ppp), 4-5 (weeks), Spring 5"/6"/1 Gallon/15 cm, 1 (ppp), 5-6 (weeks), Spring</p> | <p>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.</p> |
| <p>306 Pack/1801, 1 (ppp), 4-5 (weeks), Spring 4"/4.5"/Quart/10 cm, 1 (ppp), 4-5 (weeks), Spring 5"/6"/1 Gallon/15 cm, 1 (ppp), 5-6 (weeks), Spring</p> | <p>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.</p> |
| <p>306 Pack/1801, 1 (ppp), 4-5 (weeks), Spring 4"/4.5"/Quart/10 cm, 1 (ppp), 4-5 (weeks), Spring 5"/6"/1 Gallon/15 cm, 1 (ppp), 5-6 (weeks), Spring</p> | <p>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.</p> |
| <p>306 Pack/1801, 1 (ppp), 4-5 (weeks), Spring 4"/4.5"/Quart/10 cm, 1 (ppp), 4-5 (weeks), Spring 5"/6"/1 Gallon/15 cm, 1 (ppp), 5-6 (weeks), Spring</p> | <p>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.</p> |

| CLASS/SERIES | RECOMMENDED PLUG SIZE | GROWING ON TEMPERATURE (DAYS/NIGHTS) | TARGET MEDIA PH/EC (1:2) | DAYLENGTH |
|---|-----------------------|--|--------------------------------|-----------------------|
| COLEUS, PREMIUM SUN <i>Solenostemon scutellarioides</i> Rose to Lime Magic | 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 |
| COLEUS, PREMIUM SUN <i>Solenostemon scutellarioides</i> Ruby Heart | 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 |
| COLEUS, PREMIUM SUN <i>Solenostemon scutellarioides</i> Watermelon | 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 |
| COLORGRASS® ANEMANTHELE <i>Anemanthele lessoniana</i> Sirocco | 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 |
| COLORGRASS® CAREX <i>Carex comans</i> Amazon Mist | 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® CAREX <i>Carex comans</i> Bronco | 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® CAREX <i>Carex comans</i> Phoenix Green | 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® CAREX <i>Carex buchananii</i> Red Rooster | 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® FESTUCA <i>Festuca cinerea (Festuca glauca)</i> Festina | 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® ISOLEPIS <i>Isolepis cernua</i> Live Wire | 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® JUNCUS <i>Juncus inflexus</i> Blue Arrows | 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® JUNCUS <i>Juncus tenuis</i> Blue Dart | 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 |
| COLORGRASS® JUNCUS <i>Juncus pallidus</i> Javelin | 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 |
| COLORGRASS® JUNCUS <i>Juncus ensifolius</i> Starhead | 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® JUNCUS <i>Juncus effusus spiralis</i> Twister | 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 | Day Neutral |
| COLORGRASS® KOELERIA <i>Koeleria glauca</i> Coolio | 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 |

| FINISHING PROGRAMS | KEY TIPS |
|--|---|
| <p>306 Pack/1801, 1 (ppp), 4-5 (weeks), Spring 4"/4.5"/Quart/10 cm, 1 (ppp), 4-5 (weeks), Spring 5"/6"/1 Gallon/15 cm, 1 (ppp), 5-6 (weeks), Spring</p> | <p>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.</p> |
| <p>306 Pack/1801, 1 (ppp), 4-5 (weeks), Spring 4"/4.5"/Quart/10 cm, 1 (ppp), 4-5 (weeks), Spring 5"/6"/1 Gallon/15 cm, 1 (ppp), 5-6 (weeks), Spring</p> | <p>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.</p> |
| <p>Cell Pack, 1 (ppp), 4-5 (weeks), Spring 4"/4.5"/Quart/10 cm, 1 (ppp), 4-5 (weeks), Spring 5"/6"/1 Gallon/15 cm, 1 (ppp), 5-6 (weeks), Spring</p> | <p>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.</p> |
| <p>306 Pack/1801, 1 (ppp), 6-8 (weeks), Spring 4"/4.5"/Quart/10 cm, 1 (ppp), 6-8 (weeks), Spring 5"/6"/1 Gallon/15 cm, 1-3 (ppp), 6-8 (weeks), Spring 5"/6"/1 Gallon/15 cm, 3 (ppp), 6-8 (weeks), Spring 5"/6"/1 Gallon/15 cm, 1 (ppp), 8-10 (weeks), Spring</p> | <p>Colour is better under cool and high light conditions. If temperature permits, it is best to produce Sirocco in outdoor conditions.</p> |
| <p>306 Pack/1801, 1 (ppp), 9-10 (weeks), Spring 4"/4.5"/Quart/10 cm, 1 (ppp), 9-10 (weeks), Spring 5"/6"/1 Gallon/15 cm, 3 (ppp), 10-11 (weeks), Spring</p> | |
| <p>306 Pack/1801, 1 (ppp), 8-9 (weeks), Spring 4"/4.5"/Quart/10 cm, 1 (ppp), 8-9 (weeks), Spring 5"/6"/1 Gallon/15 cm, 3 (ppp), 9-10 (weeks), Spring</p> | |
| <p>306 Pack/1801, 1 (ppp), 6-7 (weeks), Spring 4"/4.5"/Quart/10 cm, 1 (ppp), 6-7 (weeks), Spring 5"/6"/1 Gallon/15 cm, 3 (ppp), 7-8 (weeks), Spring</p> | |
| <p>306 Pack/1801, 1 (ppp), 8-9 (weeks), Spring 4"/4.5"/Quart/10 cm, 1 (ppp), 8-9 (weeks), Spring 5"/6"/1 Gallon/15 cm, 3 (ppp), 9-10 (weeks), Spring</p> | |
| <p>306 Pack/1801, 1 (ppp), 6-7 (weeks), Spring 4"/4.5"/Quart/10 cm, 1 (ppp), 6-7 (weeks), Spring 5"/6"/1 Gallon/15 cm, 3 (ppp), 7-8 (weeks), Spring</p> | |
| <p>306 Pack/1801, 1 (ppp), 6-7 (weeks), Spring 4"/4.5"/Quart/10 cm, 1 (ppp), 6-7 (weeks), Spring 5"/6"/1 Gallon/15 cm, 3 (ppp), 6-7 (weeks), Spring</p> | <p>Sow uncovered at 65°F (18°C) for fastest and most uniform germination; prefers moist soil.</p> |
| <p>306 Pack/1801, 1 (ppp), 6-7 (weeks), Spring 4"/4.5"/Quart/10 cm, 1 (ppp), 6-7 (weeks), Spring 5"/6"/1 Gallon/15 cm, 1-3 (ppp), 7-8 (weeks), Spring</p> | |
| <p>306 Pack/1801, 1 (ppp), 6-7 (weeks), Spring 4"/4.5"/Quart/10 cm, 1 (ppp), 6-7 (weeks), Spring 5"/6"/1 Gallon/15 cm, 1-3 (ppp), 7-8 (weeks), Spring</p> | <p>Excellent substitute for Draecena Spike.</p> |
| <p>306 Pack/1801, 1 (ppp), 5-6 (weeks), Spring 4"/4.5"/Quart/10 cm, 1 (ppp), 5-6 (weeks), Spring 5"/6"/1 Gallon/15 cm, 1-3 (ppp), 6-7 (weeks), Spring</p> | <p>To prevent leaf bending, Bonzi 30 ppm spray can be used.</p> |
| <p>306 Pack/1801, 1 (ppp), 7-8 (weeks), Spring 4"/4.5"/Quart/10 cm, 1 (ppp), 7-8 (weeks), Spring 5"/6"/1 Gallon/15 cm, 3 (ppp), 8-9 (weeks), Spring</p> | |
| <p>306 Pack/1801, 1 (ppp), 6-7 (weeks), Spring 4"/4.5"/Quart/10 cm, 1 (ppp), 7-8 (weeks), Spring 5"/6"/1 Gallon/15 cm, 3 (ppp), 7-8 (weeks), Spring</p> | <p>Do not bury plugs too deeply when transplanting.</p> |
| | |

| CLASS/SERIES | RECOMMENDED PLUG SIZE | GROWING ON TEMPERATURE (DAYS/NIGHTS) | TARGET MEDIA PH/EC (1:2) | DAYLENGTH |
|---|-----------------------|--|---------------------------------|--|
| COLORGRASS® LUZULA <i>Luzula nivea</i> Lucius | 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® STIPA <i>Stipa tenuissima</i> Pony Tails | 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 |
| COSMOS <i>Cosmos bipinnatus</i> Antiquity | 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. |
| COSMOS <i>Cosmos sulphureus</i> Mandarin | 288 | (day) 60-64°F (16-18°C) (night) 57-60°F (14-16°C) | 5.8-6.2 pH 1.2-1.5 mmhos/cm | Facultative Short Day |
| COSMOS <i>Cosmos bipinnatus</i> Sonata™ Series | 288 | (day) 64-68°F (18-20°C) (night) 60-64°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. |
| CROSSANDRA <i>Crossandra infundibuliformis</i> Tropic Series | 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 |
| CUPHEA <i>Cuphea ignea</i> Dynamite | 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 |
| CUPHEA <i>Cuphea ramosissima</i> Pink Shimmer | 288 | (day) 70-75°F (21-24°C) (night) 65-68°F (18-20°C) | 5.8-6.5 pH 1.2-1.5 mmhos/cm | Day Neutral |
| DAHLIA <i>Dahlia x hybrida</i> Figaro™ Series | 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 Figaro dahlias need to grow under 12 to 14 hours daylength; growing for 16 hours or more will delay flower initiation or result in no flower initiation. |
| DIANTHUS <i>Dianthus chinensis</i> Coronet™ F₁ Series | 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 |
| DIANTHUS <i>Dianthus barbatus</i> Dash™ F₁ Series | 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 |
| DIANTHUS <i>Dianthus barbatus interspecific</i> Dynasty F₁ Series | 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 |
| DIANTHUS <i>Dianthus chinensis x barbatus</i> Floral Lace™ F₁ Series | 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 |
| DIANTHUS <i>Dianthus chinensis x barbatus</i> Ideal Select™ F₁ Series | 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 |

| FINISHING PROGRAMS | KEY TIPS |
|---|---|
| <p>306 Pack/1801, 1 (ppp), 8-9 (weeks), Spring 4"/4.5"/Quart/10 cm, 1 (ppp), 8-9 (weeks), Spring 5"/6"/1 Gallon/15 cm, 3 (ppp), 9-10 (weeks), Spring</p> | <p>Make sure plants don't get too wet.</p> |
| <p>306 Pack/1801, 1 (ppp), 6-7 (weeks), Spring 4"/4.5"/Quart/10 cm, 1 (ppp), 6-7 (weeks), Spring 5"/6"/1 Gallon/15 cm, 3 (ppp), 6-7 (weeks), Spring</p> | <p>Grow relative dry and with low to moderate fertilization, to have optimal upright growth.</p> |
| <p>4"/4.5"/Quart/10 cm, 1 (ppp), 6-7 (weeks), Spring</p> | |
| <p>5"/6"/1 Gallon/15 cm, 1 (ppp), 5-6 (weeks), Spring 5"/6"/1 Gallon/15 cm, 1 (ppp), 6-7 (weeks), Summer</p> | <p>Don't grow too wet. This can cause root rot and black foliage. Stretching of plants can be avoided by using damonizide and chlormequat.</p> |
| <p>4"/4.5"/Quart/10 cm, 1 (ppp), 6-7 (weeks), Spring 5"/6"/1 Gallon/15 cm, 1 (ppp), 7-8 (weeks), Spring</p> | |
| <p>4"/4.5"/Quart/10 cm, 1 (ppp), 10-11 (weeks), Spring 5"/6"/1 Gallon/15 cm, 3 (ppp), 10-11 (weeks), Spring</p> | <p>Best in tropical and semi-tropical climates. For cooler (Northern) growing areas, add 3 weeks to crop time or grow for Summer sales.</p> |
| <p>4"/4.5"/Quart/10 cm, 1 (ppp), 6-7 (weeks), Spring</p> | <p>No pinching required. Well-suited to solo and mixed containers. Also works in indoor plant programs.</p> |
| <p>Cell Pack, 1 (ppp), 5-7 (weeks), Spring, PGR paclobutrazol 2 ppm Spray 306 Pack/1801, 1 (ppp), 5-7 (weeks), Spring, PGR paclobutrazol 2 ppm Spray 5"/6"/1 Gallon/15 cm, 1-3 (ppp), 6-8 (weeks), Spring 10" Pot or HB/3 Gallon/25 cm, 3-4 (ppp), 9-10 (weeks), Spring 12" Pot or HB/5 Gallon/30 cm, 4-5 (ppp), 10-11 (weeks), Spring</p> | <p>Drench with a fungicide at transplant. Use growing media with excellent aeration. It does not perform well in dense soils. Do not overwater the plants. Provide high light to avoid stretch. Low light levels will reduce branching.</p> |
| <p>306 Pack/1801, 1 (ppp), 5-6 (weeks), Spring 4"/4.5"/Quart/10 cm, 1 (ppp), 5-6 (weeks), Spring</p> | <p>Very responsive to B-Nine/Alar. Also responsive to day/night temperature differential (DIF), and plants are shorter with a negative DIF.</p> |
| <p>Cell Pack, 1 (ppp), 8-11 (weeks), Late Spring, PGR paclobutrazol 10 ppm Spray 4"/4.5"/Quart/10 cm, 1 (ppp), 9-11 (weeks), Late Spring, PGR paclobutrazol 10 ppm Spray</p> | <p>Grows best under high light intensity ($DLI \geq 10 \text{ mol}\cdot\text{m}^{-2}\cdot\text{d}^{-1}$) and cool nights. Under low DLI and shorter daylength, crop time will be delayed by 2-3 weeks. Dianthus Coronet timing is also influenced by temperature. An increase in ADT from 60°F to 67°F decreased flowering time by 3 weeks. Strawberry and White Purple Eye are more compact and can use half the rate or no PGR.</p> |
| <p>4"/4.5"/Quart/10 cm, 1 (ppp), 9-10 (weeks), Summer, PGR paclobutrazol 20 ppm Spray 5"/6"/1 Gallon/15 cm, 1-3 (ppp), 9-10 (weeks), Summer, PGR paclobutrazol 20 ppm Spray 4"/4.5"/Quart/10 cm, 1 (ppp), 11-12 (weeks), Autumn, PGR paclobutrazol 20 ppm Spray 5"/6"/1 Gallon/15 cm, 1-3 (ppp), 11-12 (weeks), Autumn, PGR paclobutrazol 20 ppm Spray</p> | <p>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.</p> |
| <p>306 Pack/1801, 1 (ppp), 8-9 (weeks), Late Spring, PGR paclobutrazol 15-20 ppm Spray 4"/4.5"/Quart/10 cm, 1 (ppp), 8-9 (weeks), Late Spring, PGR paclobutrazol 15-20 ppm Spray 5"/6"/1 Gallon/15 cm, 1-3 (ppp), 8-9 (weeks), Late Spring, PGR paclobutrazol 15-20 ppm Spray</p> | |
| <p>Cell Pack, 1 (ppp), 8-10 (weeks), Late Spring, PGR paclobutrazol 15-20 ppm Spray 4"/4.5"/Quart/10 cm, 1 (ppp), 8-10 (weeks), Late Spring, PGR paclobutrazol 15-20 ppm Spray</p> | <p>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.</p> |
| <p>Cell Pack, 1 (ppp), 8-10 (weeks), Late Spring, PGR paclobutrazol 15-20 ppm Spray 4"/4.5"/Quart/10 cm, 1 (ppp), 8-10 (weeks), Late Spring, PGR paclobutrazol 15-20 ppm Spray 5"/6"/1 Gallon/15 cm, 3 (ppp), 8-10 (weeks), Late Spring, PGR paclobutrazol 15-20 ppm Spray</p> | |

| CLASS/SERIES | RECOMMENDED PLUG SIZE | GROWING ON TEMPERATURE (DAYS/NIGHTS) | TARGET MEDIA PH/EC (1:2) | DAYLENGTH |
|---|-----------------------|--|--------------------------------|--|
| DIANTHUS (INTERSPECIFIC) <i>Dianthus barbatus interspecific</i> Jolt™ F₁ Series | 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 Will flower under all photoperiods but ~1 week earlier at 15 hours (LD) than 10 hours (SD). At a given photoperiod, plants flower up to 1.5 weeks faster under high daily light integral than low. |
| DICHONDRA <i>Dichondra repens</i> Emerald Falls | 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 | |
| DICHONDRA <i>Dichondra argentea</i> Silver Falls | 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 | |
| DUSTY MILLER MARITIMA <i>Cineraria maritima/Senecio cineraria</i> Silverdust | 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 | |
| ERYSIMUM <i>Erysimum species</i> Citrona® Series | 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 |
| EUPHORBIA <i>Euphorbia graminea</i> Glamour | 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 |
| EUPHORBIA <i>Euphorbia graminea</i> Glitz F₁ | 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 |
| FUSEABLES® <i>Sutera cordata</i> Bacopa Series | 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 |
| FUSEABLES® <i>Solenostemon scutellarioides</i> Coleus Series | 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 |
| FUSEABLES® <i>Petunia x hybrida</i> Petunia Series | 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 |

| FINISHING PROGRAMS | KEY TIPS |
|---|---|
| <p>4"/4.5"/Quart/10 cm, 1 (ppp), 14-18 (weeks), Spring, PGR paclobutrazol 20 ppm Spray 5"/6"/1 Gallon/15 cm, 1-3 (ppp), 14-18 (weeks), Spring, PGR paclobutrazol 20 ppm Spray 4"/4.5"/Quart/10 cm, 1 (ppp), 11-13 (weeks), Summer, PGR paclobutrazol 20 ppm Spray 5"/6"/1 Gallon/15 cm, 1-3 (ppp), 11-13 (weeks), Summer, PGR paclobutrazol 20 ppm Spray</p> | <p>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. Jolt Purple is more sensitive to paclobutrazol than others and the rate should be reduced to half of others.</p> |
| <p>4"/4.5"/Quart/10 cm, 1 (ppp), 7-8 (weeks), Spring, PGR daminozide/chlormequat chloride tank mix 5,000/1,000 ppm Spray 5"/6"/1 Gallon/15 cm, 3 (ppp), 7-8 (weeks), Spring, PGR daminozide/chlormequat chloride tank mix 5,000/1,000 ppm Spray 12" Pot or HB/5 Gallon/30 cm, 5 (ppp), 7-9 (weeks), Spring, PGR daminozide/chlormequat chloride tank mix 5,000/1,000 ppm Spray</p> | <p>Grows best in warm and dry conditions. Use light feed. Rinse foliage after feeding to avoid salt burn.</p> |
| <p>4"/4.5"/Quart/10 cm, 1 (ppp), 6-7 (weeks), Spring, PGR daminozide/chlormequat chloride tank mix 5,000/1,000 ppm Spray 5"/6"/1 Gallon/15 cm, 3 (ppp), 7-8 (weeks), Spring, PGR daminozide/chlormequat chloride tank mix 5,000/1,000 ppm Spray 12" Pot or HB/5 Gallon/30 cm, 5 (ppp), 7-9 (weeks), Spring, PGR daminozide/chlormequat chloride tank mix 5,000/1,000 ppm Spray</p> | <p>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.</p> |
| <p>4"/4.5"/Quart/10 cm, 1 (ppp), 6-8 (weeks), Spring, PGR daminozide 5,000 ppm Spray 5"/6"/1 Gallon/15 cm, 3 (ppp), 6-8 (weeks), Spring, PGR daminozide 5,000 ppm Spray</p> | <p>Pinching not recommended. For height control, use daminozide as needed.</p> |
| <p>4"/4.5"/Quart/10 cm, 1 (ppp), 7-8 (weeks), Early Spring, PGR daminozide/chlormequat chloride tank mix 2,500/1,000 ppm Spray 4"/4.5"/Quart/10 cm, 1 (ppp), 5 (weeks), Autumn, PGR paclobutrazol 20 ppm Spray</p> | <p>Erysimum performs well when grown under cooler temperatures.</p> |
| <p>5"/6"/1 Gallon/15 cm, 1-2 (ppp), 5-8 (weeks), Spring, PGR daminozide 2,500-5,000 ppm Spray 8"/2 Gallon/20 cm, 2 (ppp), 6-8 (weeks), Spring, PGR daminozide 2,500-5,000 ppm Spray</p> | <p>Do not grow plants at temperatures below 62°F (16°C). Stretched plugs can be planted deep for better habit management. Pinching is not necessary. Daminozide may delay full flowering, but it is helpful early on in developing good branching. If starting with a daminozide spray for habit management, consider a paclobutrazol spray (10 ppm) or a low rate drench (1-2 ppm) to finish. Warmer temperatures and higher light levels can significantly reduce crop times.</p> |
| <p>4"/4.5"/Quart/10 cm, 1 (ppp), 5-8 (weeks), Spring, PGR daminozide 2,500-5,000 ppm Spray 5"/6"/1 Gallon/15 cm, 1-2 (ppp), 5-8 (weeks), Spring, PGR daminozide 2,500-5,000 ppm Spray 10" Pot or HB/3 Gallon/25 cm, 3 (ppp), 6-8 (weeks), Spring, PGR daminozide 2,500-5,000 ppm Spray</p> | <p>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.</p> |
| <p>5"/6"/1 Gallon/15 cm, 1 (ppp), 6-7 (weeks), Spring, PGR daminozide 1,000-1,500 ppm Spray 8"/2 Gallon/20 cm, 3 (ppp), 6-7 (weeks), Spring, PGR daminozide 1,000-1,500 ppm Spray 10" Pot or HB/3 Gallon/25 cm, 4 (ppp), 6-7 (weeks), Spring, PGR daminozide 1,000-1,500 ppm Spray 12" Pot or HB/5 Gallon/30 cm, 4 (ppp), 6-7 (weeks), Spring, PGR daminozide 1,000-1,500 ppm Spray</p> | <p>Avoid excessive watering and drought. Do not let plants wilt, as this will result in bud drop.</p> |
| <p>5"/6"/1 Gallon/15 cm, 1 (ppp), 5-7 (weeks), Spring, PGR daminozide 2,500-5,000 ppm Spray 8"/2 Gallon/20 cm, 1 (ppp), 5-7 (weeks), Spring, PGR daminozide 2,500-5,000 ppm Spray 10" Pot or HB/3 Gallon/25 cm, 1-3 (ppp), 5-7 (weeks), Spring, PGR daminozide 2,500-5,000 ppm Spray 12" Pot or HB/5 Gallon/30 cm, 4-5 (ppp), 5-7 (weeks), Spring, PGR daminozide 2,500-5,000 ppm Spray</p> | <p>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.</p> |
| <p>5"/6"/1 Gallon/15 cm, 1 (ppp), 9-11 (weeks), Spring, PGR daminozide 5,000 ppm Spray 8"/2 Gallon/20 cm, 1-3 (ppp), 9-11 (weeks), Spring, PGR daminozide 5,000 ppm Spray 10" Pot or HB/3 Gallon/25 cm, 1-3 (ppp), 10-12 (weeks), Spring, PGR daminozide 5,000 ppm Spray 10" Pot or HB/3 Gallon/25 cm, 1-3 (ppp), 9-11 (weeks), Spring, PGR daminozide 5,000 ppm Spray 12" Pot or HB/5 Gallon/30 cm, 4 (ppp), 10-12 (weeks), Spring, PGR daminozide 5,000 ppm Spray 5"/6"/1 Gallon/15 cm, 1 (ppp), 7-9 (weeks), Summer, PGR daminozide 5,000 ppm Spray 8"/2 Gallon/20 cm, 1-3 (ppp), 7-9 (weeks), Summer, PGR daminozide 5,000 ppm Spray 10" Pot or HB/3 Gallon/25 cm, 1-3 (ppp), 8-10 (weeks), Summer, PGR daminozide 5,000 ppm Spray 12" Pot or HB/5 Gallon/30 cm, 4 (ppp), 8-10 (weeks), Summer, PGR daminozide 5,000 ppm Spray</p> | <p>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.</p> |

| CLASS/SERIES | RECOMMENDED PLUG SIZE | GROWING ON TEMPERATURE (DAYS/NIGHTS) | TARGET MEDIA PH/EC (1:2) | DAYLENGTH |
|---|-----------------------|--|---------------------------------|---|
| FUSEABLES® <i>Petunia hybrida</i> , <i>Sutera cordata</i> Petunia-Bacopa Series | 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 | |
| FUSEABLES® <i>Juncus inflexus</i> – <i>Juncus effusus spiralis</i> Twisted Arrows | 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 | |
| GAZANIA <i>Gazania rigens</i> New Day® F₁ Series | 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 |
| GAZANIA TETRAPLOID <i>Gazania rigens</i> Sunshine Series | 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 |
| GOMPHRENA <i>Gomphrena pulchella</i> Fireworks | 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 |
| HELENIUM <i>Helenium amarum</i> Dakota Gold | 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. |
| HELICHRYSUM <i>Helichrysum microphyllum</i> (<i>Plectostachys serphyllifolia</i>) Silver Mist | 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 | |
| HIBISCUS <i>Hibiscus acetosella</i> Mahogany Splendor | 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. |
| IMPATIENS <i>Impatiens walleriana</i> Beacon® F₁ Series | 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 |
| IMPATIENS <i>Impatiens walleriana</i> Dazzler® F₁ Series | 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 |
| IMPATIENS <i>Impatiens walleriana</i> Super Elfin® F₁ Series | 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 |
| IMPATIENS <i>Impatiens walleriana</i> Super Elfin® XP F₁ Series | 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 |

| FINISHING PROGRAMS | KEY TIPS |
|---|---|
| <p>5"/6"/1 Gallon/15 cm, 1 (ppp), 8-11 (weeks), Spring, PGR paclobutrazol 2-4 ppm Drench 8"/2 Gallon/20 cm, 1 (ppp), 8-11 (weeks), Spring, PGR paclobutrazol 2-4 ppm Drench 10" Pot or HB/3 Gallon/25 cm, 1-3 (ppp), 10-12 (weeks), Spring, PGR paclobutrazol 2-4 ppm Drench 12" Pot or HB/5 Gallon/30 cm, 4 (ppp), 10-12 (weeks), Spring, PGR paclobutrazol 2-4 ppm Drench 5"/6"/1 Gallon/15 cm, 1 (ppp), 7-9 (weeks), Summer, PGR paclobutrazol 2-4 ppm Drench 8"/2 Gallon/20 cm, 1 (ppp), 7-9 (weeks), Summer, PGR paclobutrazol 2-4 ppm Drench 10" Pot or HB/3 Gallon/25 cm, 1-3 (ppp), 8-10 (weeks), Summer, PGR paclobutrazol 2-4 ppm Drench 12" Pot or HB/5 Gallon/30 cm, 4 (ppp), 8-10 (weeks), Summer, PGR paclobutrazol 2-4 ppm Drench</p> | <p>Do not use B-Nine/Alar or Topflor for height control, as they will stunt bacopa.</p> |
| <p>306 Pack/1801, 1 (ppp), 6-7 (weeks), Spring 4"/4.5"/Quart/10 cm, 1 (ppp), 7-8 (weeks), Spring 5"/6"/1 Gallon/15 cm, 1-3 (ppp), 7-8 (weeks), Spring</p> | |
| <p>306 Pack/1801, 1 (ppp), 8-9 (weeks), Late Spring, PGR daminozide 3,000 ppm Spray 5"/6"/1 Gallon/15 cm, 3 (ppp), 8-9 (weeks), Late Spring, PGR daminozide 3,500 ppm Spray 306 Pack/1801, 1 (ppp), 7-8 (weeks), Summer, PGR daminozide 3,000 ppm Spray 5"/6"/1 Gallon/15 cm, 3 (ppp), 7-8 (weeks), Summer, PGR daminozide 3,500 ppm Spray</p> | <p>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.</p> |
| <p>5"/6"/1 Gallon/15 cm, 3 (ppp), 9-10 (weeks), Early Spring, PGR daminozide 3,500 ppm Spray 5"/6"/1 Gallon/15 cm, 3 (ppp), 8-9 (weeks), Summer, PGR daminozide 3,500 ppm Spray</p> | <p>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.</p> |
| <p>5"/6"/1 Gallon/15 cm, 1 (ppp), 8-9 (weeks), Spring, PGR paclobutrazol 4-10 ppm Drench 5"/6"/1 Gallon/15 cm, 2-3 (ppp), 8-9 (weeks), Spring, PGR paclobutrazol 4-10 ppm Drench</p> | <p>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.</p> |
| <p>306 Pack/1801, 1 (ppp), 5-7 (weeks), Spring, PGR daminozide 5,000 ppm Spray 4"/4.5"/Quart/10 cm, 1 (ppp), 5-7 (weeks), Spring, PGR daminozide 5,000 ppm Spray 5"/6"/1 Gallon/15 cm, 1 (ppp), 6-8 (weeks), Spring, PGR daminozide 5,000 ppm Spray</p> | |
| <p>306 Pack/1801, 1 (ppp), 8-9 (weeks), Spring 4"/4.5"/Quart/10 cm, 1 (ppp), 8-9 (weeks), Spring 5"/6"/1 Gallon/15 cm, 3 (ppp), 9-10 (weeks), Spring</p> | <p>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.</p> |
| <p>4"/4.5"/Quart/10 cm, 1 (ppp), 5-6 (weeks), Spring, PGR daminozide/ chlormequat chloride tank mix 2,500/300 ppm Spray 4"/4.5"/Quart/10 cm, 1 (ppp), 5-6 (weeks), Spring, PGR paclobutrazol 5-10 ppm Spray 5"/6"/1 Gallon/15 cm, 1 (ppp), 6-8 (weeks), Spring, PGR daminozide/ chlormequat chloride tank mix 2,500/300 ppm Spray 5"/6"/1 Gallon/15 cm, 1 (ppp), 6-8 (weeks), Spring, PGR paclobutrazol 5-10 ppm Spray 8"/2 Gallon/20 cm, 1 (ppp), 6-8 (weeks), Spring, PGR daminozide/ chlormequat chloride tank mix 2,500/300 ppm Spray 8"/2 Gallon/20 cm, 1 (ppp), 6-8 (weeks), Spring, PGR paclobutrazol 5-10 ppm Spray</p> | |
| <p>Cell Pack, 1 (ppp), 3-4 (weeks), Spring 4"/4.5"/Quart/10 cm, 1 (ppp), 4-5 (weeks), Spring 10" Pot or HB/3 Gallon/25 cm, 3-5 (ppp), 8-10 (weeks), Spring</p> | <p>Impatiens will respond to daminozide, paclobutrazol and uniconazol. Monitoring of water and fertilization can help with controlling plant growth and vigour.</p> |
| <p>Cell Pack, 1 (ppp), 3-4 (weeks), Spring 4"/4.5"/Quart/10 cm, 1 (ppp), 4-5 (weeks), Spring 10" Pot or HB/3 Gallon/25 cm, 3-5 (ppp), 8-10 (weeks), Spring</p> | <p>Impatiens will respond to daminozide, paclobutrazol and uniconazol. Monitoring of water and fertilization can help with controlling plant growth and vigour.</p> |
| <p>Cell Pack, 1 (ppp), 3-4 (weeks), Spring 4"/4.5"/Quart/10 cm, 1 (ppp), 4-5 (weeks), Spring 10" Pot or HB/3 Gallon/25 cm, 3-5 (ppp), 8-10 (weeks), Spring</p> | <p>Impatiens will respond to daminozide, paclobutrazol and uniconazol. Monitoring of water and fertilization can help with controlling plant growth and vigour.</p> |
| <p>Cell Pack, 1 (ppp), 3-4 (weeks), Spring 4"/4.5"/Quart/10 cm, 1 (ppp), 4-5 (weeks), Spring 10" Pot or HB/3 Gallon/25 cm, 3-5 (ppp), 8-10 (weeks), Spring</p> | <p>Impatiens will respond to daminozide, paclobutrazol and uniconazol. Monitoring of water and fertilization can help with controlling plant growth and vigour.</p> |

| CLASS/SERIES | RECOMMENDED PLUG SIZE | GROWING ON TEMPERATURE (DAYS/NIGHTS) | TARGET MEDIA PH/EC (1:2) | DAYLENGTH |
|---|-----------------------|--|---------------------------------|---|
| IMPATIENS (INTERSPECIFIC) <i>Impatiens hybrida</i> Solarscape™ F₁ Series | 288 128 | (day) 68-75°F (20-24°C) (night) 60-68°F (16-20°C) | 5.8-6.2 pH 0.5-0.75 mmhos/cm | Day Neutral Light Recommendations: 4,000-8,000 foot candles. Recommended DLI of 10 or greater moles. In areas of low DLI, less than 10 moles, supplemental lighting is beneficial to increase quantity and speed of flowering. In areas of low relative humidity, less than 30%, shading is recommended. |
| IMPATIENS (INTERSPECIFIC) <i>Impatiens hybrida</i> Solarscape™ XL F₁ Series | 288 128 | (day) 68-75°F (20-24°C) (night) 60-68°F (16-20°C) | 5.8-6.2 pH 0.5-0.75 mmhos/cm | Day Neutral Light Recommendations: 4,000-8,000 foot candles. Recommended DLI of 10 or greater moles. In areas of low DLI, less than 10 moles, supplemental lighting is beneficial to increase quantity and speed of flowering. In areas of low relative humidity, less than 30%, shading is recommended. |
| IREesine <i>Iresine herbstii</i> Purple Lady | 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 | |
| LISIANTHUS <i>Eustoma grandiflorum</i> Florida F₁ Series | 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 |
| LOBELIA <i>Lobelia erinus</i> Crystal Palace | 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 |
| LOBELIA <i>Lobelia erinus</i> Rapid Series | 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 |
| LOBELIA <i>Lobelia erinus</i> Regatta Series | 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 |
| LOBELIA <i>Lobelia erinus</i> Riviera Series | 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 |
| MARIGOLD (AFRICAN) <i>Tagetes erecta</i> Marvel II™ F₁ Series | 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. |
| MARIGOLD (AFRICAN) <i>Tagetes erecta</i> Taishan® F₁ Series | 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. |
| MARIGOLD (AFRICAN) <i>Tagetes erecta</i> Vanilla F₁ | 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. |

| FINISHING PROGRAMS | KEY TIPS |
|---|--|
| <p>306 Pack/1801, 1 (ppp), 7-8 (weeks), Spring 4"/4.5"/Quart/10 cm, 1 (ppp), 7-8 (weeks), Spring 5"/6"/1 Gallon/15 cm, 1 (ppp), 8-9 (weeks), Spring 8"/2 Gallon/20 cm, 1-3 (ppp), 9-10 (weeks), Spring</p> | <p>Temperature Recommendations: Minimum: 60°F/16°C Maximum: 85°F/29°C Lowering ADT by 2°F/1°C will delay flowering by 2 to 4 days, with an even longer delay at cooler ADTs. Moisture Recommendations: Plants are well controlled with water and fertilization management; growing dry with less to no PGRs results in plants that are faster to establish in the garden. PGR Recommendations: 10 to 14 days after transplant to finish container, repeating as needed. Avoid over application of PGRs, as this may result in plant stunting or slow growing-on. If growing in dry conditions, the lowest rates of PGRs are recommended. Solarscape Magenta Bliss, Orange Burst and White Shimmer: paclobutrazol 0.25 ppm drench OR paclobutrazol 5-10 ppm spray Solarscape Neon Purple (most compact hybrid): paclobutrazol 0.10 ppm drench OR 5 ppm spray</p> |
| <p>306 Pack/1801, 1 (ppp), 7-8 (weeks), Spring 4"/4.5"/Quart/10 cm, 1 (ppp), 7-8 (weeks), Spring 5"/6"/1 Gallon/15 cm, 1 (ppp), 8-9 (weeks), Spring 8"/2 Gallon/20 cm, 1-3 (ppp), 9-10 (weeks), Spring</p> | <p>Temperature Recommendations: Minimum: 60°F/16°C Maximum: 85°F/29°C Lowering ADT by 2°F/1°C will delay flowering by 2 to 4 days, with an even longer delay at cooler ADTs. Moisture Recommendations: Plants are well controlled with water and fertilization management; growing dry with less to no PGRs results in plants that are faster to establish in the garden. PGR Recommendations: 10 to 14 days after transplant to finish container, repeating as needed. Avoid over application of PGRs, as this may result in plant stunting or slow growing-on. If growing in dry conditions, the lowest rates of PGRs are recommended. Salmon Glow recommendations: paclobutrazol 0.5 ppm drench OR paclobutrazol 10 ppm spray.</p> |
| <p>306 Pack/1801, 1 (ppp), 5-6 (weeks), Spring 4"/4.5"/Quart/10 cm, 1 (ppp), 5-6 (weeks), Spring 10" Pot or HB/3 Gallon/25 cm, 3 (ppp), 6-7 (weeks), Spring 12" Pot or HB/5 Gallon/30 cm, 4-5 (ppp), 6-7 (weeks), Spring</p> | <p>Reddish foliage indicates plants need more feed. High light, especially with low humidity, results in puckered foliage.</p> |
| <p>4"/4.5"/Quart/10 cm, 1 (ppp), 14-16 (weeks), Spring 5"/6"/1 Gallon/15 cm, 1 (ppp), 14-16 (weeks), Spring</p> | <p>Maintain pH of 6.5 to 6.8. Do not allow plugs to become rootbound.</p> |
| <p>Cell Pack, 1 (ppp), 8-9 (weeks), Spring</p> | <p>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.</p> |
| <p>Cell Pack, 1 (ppp), 5-6 (weeks), Spring, PGR daminozide 3,000-5,000 ppm Spray</p> | <p>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.</p> |
| <p>10" Pot or HB/3 Gallon/25 cm, 5-7 (ppp), 8-10 (weeks), Spring, PGR daminozide 3,000-5,000 ppm Spray</p> | <p>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.</p> |
| <p>Cell Pack, 1 (ppp), 5-6 (weeks), Spring, PGR daminozide 3,000-5,000 ppm Spray</p> | <p>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.</p> |
| <p>4"/4.5"/Quart/10 cm, 1 (ppp), 5-6 (weeks), Spring 4"/4.5"/Quart/10 cm, 1 (ppp), 7-8 (weeks), Summer</p> | <p>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.</p> |
| <p>306 Pack/1801, 1 (ppp), 5-6 (weeks), Spring 4"/4.5"/Quart/10 cm, 1 (ppp), 5-6 (weeks), Spring 306 Pack/1801, 1 (ppp), 7-8 (weeks), Summer 4"/4.5"/Quart/10 cm, 1 (ppp), 7-8 (weeks), Summer</p> | <p>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.</p> |
| <p>4"/4.5"/Quart/10 cm, 1 (ppp), 5-6 (weeks), Spring 4"/4.5"/Quart/10 cm, 1 (ppp), 7-8 (weeks), Summer</p> | <p>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.</p> |

| CLASS/SERIES | RECOMMENDED PLUG SIZE | GROWING ON TEMPERATURE (DAYS/NIGHTS) | TARGET MEDIA PH/EC (1:2) | DAYLENGTH |
|--|-----------------------|--|--------------------------------|-----------------------|
| MARIGOLD (FRENCH) <i>Tagetes patula</i> Bonanza™ Series | 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 |
| MARIGOLD (FRENCH) <i>Tagetes patula</i> Durango® Series | 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 |
| MARIGOLD (FRENCH) <i>Tagetes patula</i> Fireball | 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 |
| MARIGOLD (FRENCH) <i>Tagetes patula</i> Flamenco | 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 |
| MARIGOLD (FRENCH) <i>Tagetes patula</i> Hot Pak™ Series | 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 |
| MARIGOLD (FRENCH) <i>Tagetes patula</i> Janie Series | 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 |
| MARIGOLD (FRENCH) <i>Tagetes patula</i> Strawberry Blonde | 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 |
| NEMESIA <i>Nemesia foetans</i> Poetry™ F₁ Series | 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 |
| NEMESIA <i>Nemesia strumosa</i> Sundrops Mixture | 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 |
| ORNAMENTAL MILLET <i>Pennisetum glaucum</i> Copper Prince F₁ | 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 | |
| ORNAMENTAL MILLET <i>Pennisetum glaucum</i> Jade Princess F₁ | 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 | |
| ORNAMENTAL MILLET <i>Pennisetum glaucum</i> Jester F₁ | 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 | |
| ORNAMENTAL MILLET <i>Pennisetum glaucum</i> Purple Baron F₁ | 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 | |

| FINISHING PROGRAMS | KEY TIPS |
|--|--|
| Cell Pack, 1 (ppp), 3-4 (weeks), Spring | Maintain soil pH of 6.2 to 6.5 to avoid iron toxicity. |
| Cell Pack, 1 (ppp), 4 (weeks), Spring | Maintain soil pH of 6.2 to 6.5 to avoid iron toxicity. |
| 306 Pack/1801, 1 (ppp), 3-4 (weeks), Spring 4"/4.5"/Quart/10 cm, 1 (ppp), 4-5 (weeks), Spring 10" Pot or HB/3 Gallon/25 cm, 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. |
| 306 Pack/1801, 1 (ppp), 3-4 (weeks), Spring 4"/4.5"/Quart/10 cm, 1 (ppp), 4-5 (weeks), Spring 10" Pot or HB/3 Gallon/25 cm, 5-6 (ppp), 4-6 (weeks), Spring | Maintain soil pH of 6.2 to 6.5 to avoid iron toxicity. |
| 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. |
| Cell Pack, 1 (ppp), 3-4 (weeks), Spring | Maintain soil pH of 6.2 to 6.5 to avoid iron toxicity. |
| 306 Pack/1801, 1 (ppp), 3-4 (weeks), Spring 4"/4.5"/Quart/10 cm, 1 (ppp), 4-5 (weeks), Spring 10" Pot or HB/3 Gallon/25 cm, 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. |
| 306 Pack/1801, 1 (ppp), 5-7 (weeks), Spring 4"/4.5"/Quart/10 cm, 1 (ppp), 6-8 (weeks), Spring 5"/6"/1 Gallon/15 cm, 3 (ppp), 6-8 (weeks), Spring | If necessary, use 2 to 3 applications of daminozide 2,500-5,000 ppm Spray. |
| 4"/4.5"/Quart/10 cm, 1 (ppp), 8-9 (weeks), Spring | Grow cool, at an optimum temperature of 55°F (13°C). |
| 5"/6"/1 Gallon/15 cm, 1-2 (ppp), 12-14 (weeks), Spring 5"/6"/1 Gallon/15 cm, 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. |
| 4"/4.5"/Quart/10 cm, 1 (ppp), 4-5 (weeks), Spring 5"/6"/1 Gallon/15 cm, 1-2 (ppp), 12-14 (weeks), Spring 5"/6"/1 Gallon/15 cm, 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. |
| 5"/6"/1 Gallon/15 cm, 3 (ppp), 11-13 (weeks), Spring, PGR paclobutrazol 3-5 ppm Drench 5"/6"/1 Gallon/15 cm, 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. |
| 5"/6"/1 Gallon/15 cm, 3 (ppp), 11-13 (weeks), Spring, PGR paclobutrazol 3-5 ppm Drench 5"/6"/1 Gallon/15 cm, 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. |

| CLASS/SERIES | RECOMMENDED PLUG SIZE | GROWING ON TEMPERATURE (DAYS/NIGHTS) | TARGET MEDIA PH/EC (1:2) | DAYLENGTH |
|---|-----------------------|--|---------------------------------|--|
| ORNAMENTAL MILLET <i>Pennisetum glaucum</i> Purple Majesty | 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 | |
| ORNAMENTAL MINT <i>Mentha requienii</i> Mini Mint | 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 |
| ORNAMENTAL OREGANO <i>Origanum x hybrida</i> Kirigami | 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. |
| OSTEOSPERMUM <i>Osteospermum ecklonis</i> Akila® F. Series | 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 |
| PANSY <i>Viola x wittrockiana</i> Frizzle Sizzle F. Series | 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 |
| PANSY <i>Viola x wittrockiana</i> Matrix® F. Series | 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 |
| PANSY <i>Viola x wittrockiana</i> Panola® XP F. Series | 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 |
| PANSY <i>Viola x wittrockiana</i> Spring Matrix™ F. Series | 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 |

| FINISHING PROGRAMS | KEY TIPS |
|--|--|
| <p>5"/6"/1 Gallon/15 cm, 3 (ppp), 11-13 (weeks), Spring, PGR paclobutrazol 3-5 ppm Drench 5"/6"/1 Gallon/15 cm, 3 (ppp), 9-10 (weeks), Autumn</p> | <p>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.</p> |
| <p>306 Pack/1801, 1 (ppp), 4-6 (weeks), Spring 4"/4.5"/Quart/10 cm, 1 (ppp), 5-7 (weeks), Spring 5"/6"/1 Gallon/15 cm, 1-3 (ppp), 6-8 (weeks), Spring</p> | <p>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).</p> |
| <p>4"/4.5"/Quart/10 cm, 1 (ppp), 10-12 (weeks), Late Spring, PGR daminozide 1,500-2,000 ppm Spray 5"/6"/1 Gallon/15 cm, 1 (ppp), 11-13 (weeks), Late Spring, PGR daminozide 1,500-2,000 ppm Spray 10" Pot or HB/3 Gallon/25 cm, 3-5 (ppp), 12-13 (weeks), Late Spring, PGR daminozide 1,500-2,000 ppm Spray 4"/4.5"/Quart/10 cm, 1 (ppp), 9-10 (weeks), Summer, PGR daminozide 1,500-2,000 ppm Spray 5"/6"/1 Gallon/15 cm, 1 (ppp), 9-11 (weeks), Summer, PGR daminozide 1,500-2,500 ppm Spray 10" Pot or HB/3 Gallon/25 cm, 3-5 (ppp), 10-12 (weeks), Summer, PGR daminozide 2,000-2,500 ppm Spray</p> | <p>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⁻²·d⁻¹) 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.</p> |
| <p>306 Pack/1801, 1 (ppp), 10-12 (weeks), Spring, PGR daminozide/chlormequat chloride tank mix 2,500/500 ppm Spray 4"/4.5"/Quart/10 cm, 1 (ppp), 10-12 (weeks), Spring, PGR daminozide/chlormequat chloride tank mix 2,500/500 ppm Spray 5"/6"/1 Gallon/15 cm, 1-3 (ppp), 12-14 (weeks), Spring, PGR daminozide/chlormequat chloride tank mix 2,500/500 ppm Spray 306 Pack/1801, 1 (ppp), 7-9 (weeks), Autumn, PGR daminozide/chlormequat chloride tank mix 2,500/500 ppm Spray 4"/4.5"/Quart/10 cm, 1 (ppp), 7-9 (weeks), Autumn, PGR daminozide/chlormequat chloride tank mix 2,500/500 ppm Spray 5"/6"/1 Gallon/15 cm, 1-3 (ppp), 9-11 (weeks), Autumn, PGR daminozide/chlormequat chloride tank mix 2,500/500 ppm Spray</p> | <p>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.</p> |
| <p>5"/6"/1 Gallon/15 cm, 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/25 cm, 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/15 cm, 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/25 cm, 7-9 (ppp), 4-6 (weeks), Autumn, PGR daminozide/chlormequat chloride tank mix 2,500/250-5,000/500 ppm Spray</p> | <p>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.</p> |
| <p>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/10 cm, 1 (ppp), 5-6 (weeks), Autumn, PGR daminozide/chlormequat chloride tank mix 2,500/250-5,000/500 ppm Spray 4"/4.5"/Quart/10 cm, 1 (ppp), 5-6 (weeks), Autumn, PGR paclobutrazol 0.125 ppm Drench 10" Pot or HB/3 Gallon/25 cm, 7-9 (ppp), 4-5 (weeks), Autumn, PGR daminozide/chlormequat chloride tank mix 2,500/250-5,000/500 ppm Spray</p> | <p>Adjust PGR rates and frequency of application depending on local conditions.</p> |
| <p>Cell Pack, 1 (ppp), 5-6 (weeks), Early Spring, PGR daminozide/chlormequat chloride tank mix 1,500/150-2,500/250 ppm Spray 4"/4.5"/Quart/10 cm, 1 (ppp), 5-6 (weeks), Early Spring, PGR daminozide/chlormequat chloride tank mix 1,500/150-2,500/250 ppm Spray Cell Pack, 1 (ppp), 3-4 (weeks), Autumn, PGR daminozide/chlormequat chloride tank mix 2,500/500-5,000/500 ppm Spray Cell Pack, 1 (ppp), 3-4 (weeks), Autumn, PGR paclobutrazol 0.1-0.125 ppm Drench 4"/4.5"/Quart/10 cm, 1 (ppp), 4-5 (weeks), Autumn, PGR daminozide/chlormequat chloride tank mix 2,500/500-5,000/500 ppm Spray 4"/4.5"/Quart/10 cm, 1 (ppp), 3-4 (weeks), Autumn, PGR paclobutrazol 0.1-0.125 ppm Drench</p> | <p>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.</p> |
| <p>Cell Pack, 1 (ppp), 6-7 (weeks), Early Spring, PGR daminozide/chlormequat chloride tank mix 1,500/500 ppm Spray 4"/4.5"/Quart/10 cm, 1 (ppp), 6-7 (weeks), Early Spring, PGR daminozide/chlormequat chloride tank mix 1,500/500 ppm Spray 10" Pot or HB/3 Gallon/25 cm, 7-9 (ppp), 6-7 (weeks), Early Spring, PGR daminozide/chlormequat chloride tank mix 1,500/500 ppm Spray</p> | <p>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.</p> |

| CLASS/SERIES | RECOMMENDED PLUG SIZE | GROWING ON TEMPERATURE (DAYS/NIGHTS) | TARGET MEDIA PH/EC (1:2) | DAYLENGTH |
|--|-----------------------|--|--------------------------------|--|
| PANSY (SPREADING) <i>Viola x wittrockiana</i> Cool Wave® F₁ Series | 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 |
| PENTAS <i>Pentas lanceolata</i> Butterfly™ F₁ Series | 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 |
| PENTAS <i>Pentas lanceolata</i> Glitterati™ F₁ Series | 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 |
| PENTAS <i>Pentas lanceolata</i> Lucky Star® F₁ Series | 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 |
| PEPPER (ORNAMENTAL) <i>Capsicum annuum</i> Black Pearl | 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 | |
| PEPPER (ORNAMENTAL) <i>Capsicum annuum</i> Calico F₁ | 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 | |
| PEPPER (ORNAMENTAL) <i>Capsicum annuum</i> Midnight Fire | 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 | |
| PEPPER (ORNAMENTAL) <i>Capsicum annuum</i> Purple Flash | 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 | |
| PEPPER (ORNAMENTAL) <i>Capsicum annuum</i> Sangria F₁ | 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 | |
| PEPPER (ORNAMENTAL) <i>Capsicum annuum</i> Sedona Sun | 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 | |
| PETUNIA <i>Petunia x hybrida</i> Daddy® F₁ Series | 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 |
| PETUNIA <i>Petunia x hybrida</i> Debonair™ F₁ Series | 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. |
| PETUNIA <i>Petunia x hybrida</i> Dreams™ F₁ Series | 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 |
| PETUNIA <i>Petunia x hybrida</i> Ez Rider® F₁ Series | 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. |

| FINISHING PROGRAMS | KEY TIPS |
|--|--|
| <p>5"/6"/1 Gallon/15 cm, 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/25 cm, 4 (ppp), 9-10 (weeks), Early Spring, PGR daminozide/chlormequat chloride tank mix 2,500/250 ppm Spray 5"/6"/1 Gallon/15 cm, 1-3 (ppp), 5-6 (weeks), Autumn, PGR daminozide/chlormequat chloride tank mix 5,000/500 ppm Spray 10" Pot or HB/3 Gallon/25 cm, 4 (ppp), 7-8 (weeks), Autumn, PGR daminozide/chlormequat chloride tank mix 5,000/500 ppm Spray</p> | <p>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.</p> |
| <p>Cell Pack, 1 (ppp), 8-10 (weeks), Spring 4"/4.5"/Quart/10 cm, 1 (ppp), 8-10 (weeks), Spring 5"/6"/1 Gallon/15 cm, 2 (ppp), 8-10 (weeks), Spring</p> | <p>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.</p> |
| <p>Cell Pack, 1 (ppp), 7-8 (weeks), Spring 4"/4.5"/Quart/10 cm, 1 (ppp), 7-8 (weeks), Spring 5"/6"/1 Gallon/15 cm, 2 (ppp), 7-8 (weeks), Spring</p> | <p>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.</p> |
| <p>Cell Pack, 1 (ppp), 7-8 (weeks), Spring 4"/4.5"/Quart/10 cm, 1 (ppp), 7-8 (weeks), Spring 5"/6"/1 Gallon/15 cm, 2 (ppp), 7-8 (weeks), Spring</p> | <p>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.</p> |
| <p>4"/4.5"/Quart/10 cm, 1 (ppp), 5-6 (weeks), Summer 5"/6"/1 Gallon/15 cm, 1-3 (ppp), 6-7 (weeks), Summer 4"/4.5"/Quart/10 cm, 1 (ppp), 5-6 (weeks), Autumn 5"/6"/1 Gallon/15 cm, 1-3 (ppp), 6-7 (weeks), Autumn</p> | <p>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.</p> |
| <p>4"/4.5"/Quart/10 cm, 1 (ppp), 5-6 (weeks), Summer 5"/6"/1 Gallon/15 cm, 1-3 (ppp), 6-7 (weeks), Summer 4"/4.5"/Quart/10 cm, 1 (ppp), 5-6 (weeks), Autumn 5"/6"/1 Gallon/15 cm, 1-3 (ppp), 6-7 (weeks), Autumn</p> | <p>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.</p> |
| <p>4"/4.5"/Quart/10 cm, 1 (ppp), 7-13 (weeks), Summer 5"/6"/1 Gallon/15 cm, 1-3 (ppp), 7-13 (weeks), Summer 4"/4.5"/Quart/10 cm, 1 (ppp), 7-13 (weeks), Autumn 5"/6"/1 Gallon/15 cm, 1-3 (ppp), 7-13 (weeks), Autumn</p> | <p>Performs best under high light and warm temperatures. Add 4 to 5 weeks for Spring production crop times.</p> |
| <p>4"/4.5"/Quart/10 cm, 1 (ppp), 5-6 (weeks), Summer 5"/6"/1 Gallon/15 cm, 1-3 (ppp), 6-7 (weeks), Summer 4"/4.5"/Quart/10 cm, 1 (ppp), 5-6 (weeks), Autumn 5"/6"/1 Gallon/15 cm, 1-3 (ppp), 6-7 (weeks), Autumn</p> | <p>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.</p> |
| <p>5"/6"/1 Gallon/15 cm, 1-3 (ppp), 7-13 (weeks), Summer 5"/6"/1 Gallon/15 cm, 1-3 (ppp), 7-13 (weeks), Autumn</p> | <p>Performs best under high light and warm temperatures. Add 4 to 5 weeks for Spring production crop times.</p> |
| <p>5"/6"/1 Gallon/15 cm, 1-3 (ppp), 7-13 (weeks), Summer 5"/6"/1 Gallon/15 cm, 1-3 (ppp), 7-13 (weeks), Autumn</p> | <p>Performs best under high light and warm temperatures. Add 4 to 5 weeks for Spring production crop times.</p> |
| <p>Cell Pack, 1 (ppp), 5-6 (weeks), Spring, PGR daminozide 2,500-5,000 ppm Spray 10" Pot or HB/3 Gallon/25 cm, 3 (ppp), 6-7 (weeks), Spring, PGR daminozide 2,500-3,500 ppm Spray</p> | |
| <p>4"/4.5"/Quart/10 cm, 1 (ppp), 5-6 (weeks), Spring, PGR paclobutrazol 2-3 ppm Drench 10" Pot or HB/3 Gallon/25 cm, 3 (ppp), 6-7 (weeks), Spring, PGR paclobutrazol 2-3 ppm Drench 4"/4.5"/Quart/10 cm, 1 (ppp), 3-5 (weeks), Summer, PGR paclobutrazol 2-3 ppm Drench</p> | <p>Avoid using daminozide on Black Cherry, as this may impact flower colour. Options include paclobutrazol or flurprimidol.</p> |
| <p>Cell Pack, 1 (ppp), 5-6 (weeks), Spring, PGR daminozide 2,500-5,000 ppm Spray 10" Pot or HB/3 Gallon/25 cm, 3 (ppp), 5-7 (weeks), Spring, PGR daminozide 2,500-5,000 ppm Spray</p> | |
| <p>Cell Pack, 1 (ppp), 5-6 (weeks), Spring 10" Pot or HB/3 Gallon/25 cm, 3 (ppp), 6-7 (weeks), Spring, PGR daminozide 2,500-3,500 ppm Spray</p> | <p>Genetically compact and needs less to no PGRs after transplant.</p> |

| CLASS/SERIES | RECOMMENDED PLUG SIZE | GROWING ON TEMPERATURE (DAYS/NIGHTS) | TARGET MEDIA PH/EC (1:2) | DAYLENGTH |
|---|-----------------------|--|--------------------------------|--|
| PETUNIA <i>Petunia x hybrida</i> Lo Rider™ F₁ Series | 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. |
| PETUNIA <i>Petunia x hybrida</i> Madness™ F₁ Series | 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 |
| PETUNIA <i>Petunia x hybrida</i> Mirage F₁ Series | 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 |
| PETUNIA <i>Petunia x hybrida</i> Pretty Flora™ F₁ Series | 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. |
| PETUNIA <i>Petunia x hybrida</i> Pretty Grand™ F₁ Series | 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. |
| PETUNIA <i>Petunia x hybrida</i> Sophistica® F₁ Series | 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. |
| PETUNIA <i>Petunia x hybrida</i> Supercascade F₁ Series | 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 |
| PETUNIA (DOUBLE) <i>Petunia x hybrida</i> Double Cascade F₁ Series | 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 |
| PETUNIA (DOUBLE) <i>Petunia x hybrida</i> Double Madness™ F₁ Series | 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 |
| PETUNIA (DOUBLE) <i>Petunia x hybrida</i> Duo F₁ Series | 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 |
| PETUNIA (DOUBLE) <i>Petunia x hybrida</i> Glorious F₁ Series | 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 |

| FINISHING PROGRAMS | KEY TIPS |
|---|--|
| <p>Cell Pack, 1 (ppp), 5-6 (weeks), Spring, PGR daminozide 2,500-3,500 ppm Spray 10" Pot or HB/3 Gallon/25 cm, 3 (ppp), 6-7 (weeks), Spring, PGR daminozide 2,500-3,500 ppm Spray</p> | <p>Genetically compact and may need less to no PGRs after transplant.</p> |
| <p>Cell Pack, 1 (ppp), 5-6 (weeks), Spring, PGR daminozide 2,500-5,000 ppm Spray 10" Pot or HB/3 Gallon/25 cm, 3 (ppp), 5-7 (weeks), Spring, PGR daminozide 2,500-5,000 ppm Spray</p> | |
| <p>Cell Pack, 1 (ppp), 5-6 (weeks), Spring, PGR daminozide 2,500-5,000 ppm Spray 10" Pot or HB/3 Gallon/25 cm, 3 (ppp), 5-7 (weeks), Spring, PGR daminozide 2,500-5,000 ppm Spray</p> | |
| <p>Cell Pack, 1 (ppp), 5-6 (weeks), Spring, PGR daminozide 2,500-3,500 ppm Spray 10" Pot or HB/3 Gallon/25 cm, 3 (ppp), 6-7 (weeks), Spring, PGR daminozide 2,500-3,500 ppm Spray</p> | <p>Genetically compact and needs less to no PGRs after transplant.</p> |
| <p>Cell Pack, 1 (ppp), 5-6 (weeks), Spring, PGR daminozide 2,500-3,500 ppm Spray 10" Pot or HB/3 Gallon/25 cm, 3 (ppp), 6-7 (weeks), Spring, PGR daminozide 2,500-3,500 ppm Spray</p> | <p>Genetically compact and needs less to no PGRs after transplant.</p> |
| <p>4"/4.5"/Quart/10 cm, 1 (ppp), 5-6 (weeks), Spring, PGR paclobutrazol 2-3 ppm Drench 10" Pot or HB/3 Gallon/25 cm, 3 (ppp), 6-7 (weeks), Spring, PGR paclobutrazol 2-3 ppm Drench 4"/4.5"/Quart/10 cm, 1 (ppp), 4-5 (weeks), Summer, PGR paclobutrazol 2-3 ppm Drench 10" Pot or HB/3 Gallon/25 cm, 3 (ppp), 5-6 (weeks), Summer, PGR paclobutrazol 2-3 ppm Drench</p> | <p>Avoid using daminozide on Lime Bicolor and Blackberry, as this may impact flower colour. Options include paclobutrazol or flurprimidol.</p> |
| <p>Cell Pack, 1 (ppp), 5-6 (weeks), Spring, PGR daminozide 2,500-5,000 ppm Spray 10" Pot or HB/3 Gallon/25 cm, 3 (ppp), 6-7 (weeks), Spring, PGR daminozide 2,500-3,500 ppm Spray</p> | |
| <p>4"/4.5"/Quart/10 cm, 1 (ppp), 6-7 (weeks), Spring 5"/6"/1 Gallon/15 cm, 2-3 (ppp), 8-9 (weeks), Spring</p> | <p>Drench with a fungicide at transplant. 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.</p> |
| <p>4"/4.5"/Quart/10 cm, 1 (ppp), 5-6 (weeks), Spring 5"/6"/1 Gallon/15 cm, 2-3 (ppp), 7-8 (weeks), Spring</p> | <p>Drench with a fungicide at transplant. 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.</p> |
| <p>4"/4.5"/Quart/10 cm, 1 (ppp), 5-6 (weeks), Spring 5"/6"/1 Gallon/15 cm, 2-3 (ppp), 7-8 (weeks), Spring</p> | <p>Drench with a fungicide at transplant. 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.</p> |
| <p>4"/4.5"/Quart/10 cm, 1 (ppp), 6-7 (weeks), Spring 5"/6"/1 Gallon/15 cm, 2-3 (ppp), 7-8 (weeks), Spring</p> | <p>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.</p> |

| CLASS/SERIES | RECOMMENDED PLUG SIZE | GROWING ON TEMPERATURE (DAYS/NIGHTS) | TARGET MEDIA PH/EC (1:2) | DAYLENGTH |
|--|-----------------------|--|--------------------------------|--|
| PETUNIA (DOUBLE) <i>Petunia x hybrida</i> Pirouette F₁ Series | 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 |
| PETUNIA (SPREADING) <i>Petunia x hybrida</i> E3 Easy Wave™ F₁ Series | 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: 9 hours: White 9.5 hours: Coral, Pink, Red, Sky Blue 10 hours: Blue, Pink Cosmo |
| PETUNIA (SPREADING) <i>Petunia x hybrida</i> Easy Wave® F₁ Series | 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: 9 hours: Rose Fusion 9.5 hours: Lavender Sky Blue 10 hours: Berry Velour, Pink Passion, Burgundy Star, Coral Reef, Neon Rose, Rosy Dawn, Silver, Violet, White, Yellow 10.5 hours: Blue, Burgundy Velour 11 hours: Pink, Plum Vein, Red, Red Velour |
| PETUNIA (SPREADING) <i>Petunia x hybrida</i> Shock Wave® F₁ Series | 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 10.5 hours: Pink Vein, Deep Purple, Purple Tie Dye, Rose, White |
| PETUNIA (SPREADING) <i>Petunia x hybrida</i> Tidal Wave® F₁ Series | 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 |
| PETUNIA (SPREADING) <i>Petunia x hybrida</i> Wave® F₁ Series | 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: 11.5 hours: Purple 12 hours: Lavender, Misty Lilac, Pink, Purple Classic 13 hours: Carmine Velour |
| PHLOX <i>Phlox drummondii</i> 21st Century F₁ Series | 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 |

| FINISHING PROGRAMS | KEY TIPS |
|---|---|
| <p>4"/4.5"/Quart/10 cm, 1 (ppp), 6-7 (weeks), Spring 5"/6"/1 Gallon/15 cm, 2-3 (ppp), 7-8 (weeks), Spring</p> | <p>Drench with a fungicide at transplant. 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.</p> |
| <p>306 Pack/1801, 1 (ppp), 6-7 (weeks), Spring, PGR paclobutrazol 2-3 ppm Drench 4"/4.5"/Quart/10 cm, 1 (ppp), 6-7 (weeks), Spring, PGR paclobutrazol 2-3 ppm Drench 10" Pot or HB/3 Gallon/25 cm, 3 (ppp), 8-9 (weeks), Spring, PGR paclobutrazol 2-3 ppm Drench 306 Pack/1801, 1 (ppp), 4-5 (weeks), Summer, PGR paclobutrazol 2-3 ppm Drench 4"/4.5"/Quart/10 cm, 1 (ppp), 4-5 (weeks), Summer, PGR paclobutrazol 2-3 ppm Drench 10" Pot or HB/3 Gallon/25 cm, 3 (ppp), 6-7 (weeks), Summer, PGR paclobutrazol 2-3 ppm Drench</p> | <p>Post transplant, E3 Easy Wave varieties (see exceptions) can be controlled with less or half the rate of Easy Wave. North American recommendations: 1. Daminozide spray of 2,500-3,000 ppm 7 to 10 days after transplant promotes branching and controls early stretch. Then 2. Paclobutrazol 2-3 ppm drench 7 to 10 days later, additional drenches as needed. Exception: E3 Easy Wave Blue, with paclobutrazol rates similar to Easy Wave at 5 ppm drench. Northern Europe recommendations: Paclobutrazol 3-4 ml/l (12-16 ppm) spray weekly or as needed OR Daminozide 3 g/l (2,000 ppm) spray weekly or as needed Exception: E3 Easy Wave Blue, with paclobutrazol rates similar to Easy Wave at 5 ml/l (20 ppm) spray. All E3 Easy Wave varieties are cold durable. 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⁻²·d⁻¹.</p> |
| <p>306 Pack/1801, 1 (ppp), 6-7 (weeks), Spring, PGR paclobutrazol 3-5 ppm Drench 4"/4.5"/Quart/10 cm, 1 (ppp), 6-7 (weeks), Spring, PGR paclobutrazol 3-5 ppm Drench 10" Pot or HB/3 Gallon/25 cm, 3-4 (ppp), 8-9 (weeks), Spring, PGR paclobutrazol 3-5 ppm Drench 306 Pack/1801, 1 (ppp), 4-5 (weeks), Summer, PGR paclobutrazol 3-5 ppm Drench 4"/4.5"/Quart/10 cm, 1 (ppp), 4-5 (weeks), Summer, PGR paclobutrazol 3-5 ppm Drench 10" Pot or HB/3 Gallon/25 cm, 3-4 (ppp), 6-7 (weeks), Summer, PGR paclobutrazol 3-5 ppm Drench</p> | <p>Daminozide spray of 3,500 to 5,000 ppm 7 to 10 days after transplant promotes branching and controls early stretch. As an optional treatment, flurprimidol (Topflor) can be used in place of paclobutrazol at 2/3 the rate of paclobutrazol. 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⁻²·d⁻¹. 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, Lavender Sky Blue, Neon Rose, Pink Passion, Pink, Plum Vein, Red, Red Velour, Rose Fusion, Silver, Violet, White, Yellow Cold-Sensitive Variety: Rosy Dawn</p> |
| <p>306 Pack/1801, 1 (ppp), 5-6 (weeks), Spring, PGR paclobutrazol 3-5 ppm Drench 4"/4.5"/Quart/10 cm, 1 (ppp), 5-6 (weeks), Spring, PGR paclobutrazol 3-5 ppm Drench 10" Pot or HB/3 Gallon/25 cm, 3-4 (ppp), 6-8 (weeks), Spring, PGR paclobutrazol 3-5 ppm Drench 306 Pack/1801, 1 (ppp), 4-5 (weeks), Summer, PGR paclobutrazol 3-5 ppm Drench 4"/4.5"/Quart/10 cm, 1 (ppp), 4-5 (weeks), Summer, PGR paclobutrazol 3-5 ppm Drench 10" Pot or HB/3 Gallon/25 cm, 3-4 (ppp), 5-6 (weeks), Summer, PGR paclobutrazol 3-5 ppm Drench</p> | <p>Daminozide spray of 2,500 to 5,000 ppm 7 to 10 days after transplant promotes branching and controls early stretch. As an optional treatment, flurprimidol (Topflor) can be used in place of paclobutrazol at 2/3 the rate of paclobutrazol. 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⁻²·d⁻¹. Cold-Durable Varieties: Denim, Pink Shades, Pink Vein, Purple Tie Dye, White Cold-Sensitive Varieties: Coral Crush, Deep Purple, Red, Rose</p> |
| <p>5"/6"/1 Gallon/15 cm, 1-3 (ppp), 6-8 (weeks), Spring, PGR paclobutrazol 5-8 ppm Drench 8"/2 Gallon/20 cm, 1-3 (ppp), 6-8 (weeks), Spring, PGR paclobutrazol 5-8 ppm Drench 5"/6"/1 Gallon/15 cm, 1-3 (ppp), 4-7 (weeks), Summer, PGR paclobutrazol 5-8 ppm Drench 8"/2 Gallon/20 cm, 1-3 (ppp), 4-7 (weeks), Summer, PGR paclobutrazol 5-8 ppm Drench</p> | <p>Daminozide spray of 3,500 to 5,000 ppm 7 to 10 days after transplant promotes branching and controls early stretch. An alternative to paclobutrazol drench, flurprimidol (Topflor) can be used at 2/3 the rate of paclobutrazol. 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⁻²·d⁻¹. Cold-Durable Varieties: Red Velour, Silver</p> |
| <p>5"/6"/1 Gallon/15 cm, 1 (ppp), 7-9 (weeks), Spring, PGR paclobutrazol 5-8 ppm Drench 10" Pot or HB/3 Gallon/25 cm, 3-4 (ppp), 8-10 (weeks), Spring, PGR paclobutrazol 5-8 ppm Drench 5"/6"/1 Gallon/15 cm, 1 (ppp), 5-7 (weeks), Summer, PGR paclobutrazol 5-8 ppm Drench 10" Pot or HB/3 Gallon/25 cm, 3-4 (ppp), 6-8 (weeks), Summer, PGR paclobutrazol 5-8 ppm Drench</p> | <p>Daminozide spray of 3,500 to 5,000 ppm 7 to 10 days after transplant promotes branching and controls early stretch. Carmine Velour and Purple Wave are more vigorous than other Wave varieties and can use a paclobutrazol 8 to 10 ppm drench. As an optional treatment, flurprimidol (Topflor) can be used in place of paclobutrazol at 2/3 the rate of paclobutrazol. 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⁻²·d⁻¹. Cold-Durable Varieties: Carmine Velour, Lavender, Pink, Purple, Purple Classic</p> |
| <p>306 Pack/1801, 1 (ppp), 6 (weeks), Spring 4"/4.5"/Quart/10 cm, 1 (ppp), 6 (weeks), Spring 5"/6"/1 Gallon/15 cm, 3 (ppp), 7-8 (weeks), Spring</p> | <p>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.</p> |

| CLASS/SERIES | RECOMMENDED PLUG SIZE | GROWING ON TEMPERATURE (DAYS/NIGHTS) | TARGET MEDIA PH/EC (1:2) | DAYLENGTH |
|--|-----------------------|--|--------------------------------|--|
| PLECTRANTHUS <i>Plectranthus argentatus</i> Silver Crest | 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. |
| PLECTRANTHUS <i>Plectranthus argentatus</i> Silver Shield | 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. |
| PORTULACA <i>Portulaca grandiflora</i> Happy Hour™ F₁ Series | 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. |
| PORTULACA <i>Portulaca grandiflora</i> Happy Trails™ F₁ Series | 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. |
| PRIMULA <i>Primula acaulis</i> Heritage Crème F₁ | 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 |
| PRIMULA <i>Primula acaulis</i> Primlet® Series | 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 |
| PURSLANE <i>Portulaca oleracea</i> Toucan Series | 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 |
| RUELLIA <i>Ruellia brittoniana (Ruellia tweediana)</i> Southern Star Series | 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 |
| SALVIA <i>Salvia canariensis</i> Lancelot | 288 | (day) 65-72°F (18-22°C) (night) 62-65°F (17-18°C) | 5.5-5.8 pH 1.5-2.0 mmhos/cm | Facultative Long Day Facultative Long Day with critical daylength 13 hours |
| SALVIA <i>Salvia splendens</i> Lighthouse Series | 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 |
| SALVIA <i>Salvia splendens</i> Red Hot Sally II | 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 |
| SALVIA <i>Salvia splendens</i> Scarlet King | 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 |
| SALVIA <i>Salvia splendens</i> Vista™ Series | 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 |
| SALVIA INTERSPECIFIC <i>Salvia longispicata x farinacea</i> Big Blue | 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 intermediate-day flowering response with fastest flowering at 14 and 15 hours. At ≤13 hours, flowering delayed by ~3 weeks than at 14 and 15 hours. At ≥16 hours and night interruption, flowering delayed by ~1 week than at 14 and 15 hours. |

| FINISHING PROGRAMS | KEY TIPS |
|---|---|
| 4"/4.5"/Quart/10 cm , 1 (ppp), 4-6 (weeks), Spring, PGR daminozide 2,500-5,000 ppm Spray 10" Pot or HB/3 Gallon/25 cm , 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. |
| 4"/4.5"/Quart/10 cm , 1 (ppp), 8-9 (weeks), Spring, PGR daminozide 2,500-5,000 ppm Spray 5"/6"/1 Gallon/15 cm , 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. |
| Cell Pack , 36 (ppp), 5 (weeks), Spring 4"/4.5"/Quart/10 cm , 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. |
| Cell Pack , 36 (ppp), 5 (weeks), Spring 4"/4.5"/Quart/10 cm , 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. |
| 5"/6"/1 Gallon/15 cm , 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. |
| 5"/6"/1 Gallon/15 cm , 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. |
| Cell Pack , 1 (ppp), 8-10 (weeks), Spring 4"/4.5"/Quart/10 cm , 1 (ppp), 8-10 (weeks), Spring 5"/6"/1 Gallon/15 cm , 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. |
| Cell Pack , 1 (ppp), 10 (weeks), Late Spring 4"/4.5"/Quart/10 cm , 1 (ppp), 10 (weeks), Late Spring 5"/6"/1 Gallon/15 cm , 3 (ppp), 10 (weeks), Late Spring 5"/6"/1 Gallon/15 cm , 3 (ppp), 8 (weeks), Summer | |
| 306 Pack/1801 , 1 (ppp), 4-5 (weeks), Spring, PGR daminozide 2,500 ppm Spray 4"/4.5"/Quart/10 cm , 1 (ppp), 5-6 (weeks), Spring, PGR daminozide 2,500 ppm Spray 5"/6"/1 Gallon/15 cm , 2 (ppp), 7-8 (weeks), Spring, PGR daminozide 2,500-5,000 ppm Spray | PGR applications can be made two weeks after transplant and repeated in 7 to 10 days if needed. Paclobutrazol 0.5 to 1.0 ppm drench can be used alternatively to daminozide. Paclobutrazol is not recommended for early applications in gallons, as this can result in stunting. All timing recommendations are for a finished plant with silver foliage, no flower. Add 4 to 5 weeks for flowering under long days. Finish with flowers in gallons only, not small pots. |
| Cell Pack , 1 (ppp), 4-5 (weeks), Spring 4"/4.5"/Quart/10 cm , 1 (ppp), 4-5 (weeks), Spring | Salvia is very sensitive to high salt during early plug stages. |
| Cell Pack , 1 (ppp), 4-5 (weeks), Spring 4"/4.5"/Quart/10 cm , 1 (ppp), 4-5 (weeks), Spring | Salvia is very sensitive to high salt during early plug stages. |
| Cell Pack , 1 (ppp), 4-5 (weeks), Spring | Salvia is very sensitive to high salt during early plug stages. |
| Cell Pack , 1 (ppp), 4-5 (weeks), Spring 4"/4.5"/Quart/10 cm , 1 (ppp), 4-5 (weeks), Spring | Salvia is very sensitive to high salt during early plug stages. |
| 5"/6"/1 Gallon/15 cm , 1 (ppp), 13-14 (weeks), Late Spring, PGR daminozide 2,500 ppm Spray 5"/6"/1 Gallon/15 cm , 1 (ppp), 12-13 (weeks), Summer, PGR 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. Lighting is still recommended for this finish, to set buds before sale. Repeat PGR treatments 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.). |

| CLASS/SERIES | RECOMMENDED PLUG SIZE | GROWING ON TEMPERATURE (DAYS/NIGHTS) | TARGET MEDIA PH/EC (1:2) | DAYLENGTH |
|---|-----------------------|--|--------------------------------|----------------------|
| SNAPDRAGON <i>Antirrhinum majus</i> Rocket F₁ Series | 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 |
| SNAPDRAGON <i>Antirrhinum majus</i> Snapshot™ F₁ Series | 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 |
| STOCK <i>Matthiola incana</i> Hot Cakes Series | 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 |
| THUNBERGIA <i>Thunbergia alata</i> Susie™ Series | 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 |
| TORENIA <i>Torenia fournieri</i> Kauai™ Series | 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 |
| VERBENA <i>Verbena x hybrida</i> Quartz Series | 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 |
| VERBENA <i>Verbena x hybrida</i> Quartz XP Series | 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 |
| VINCA <i>Catharanthus roseus</i> Mediterranean XP Series | 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 |
| VINCA <i>Catharanthus roseus</i> Pacifica XP Series | 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 |
| VINCA <i>Catharanthus roseus</i> Tattoo™ Series | 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 |
| VINCA <i>Catharanthus roseus</i> Titan™ F₁ Series | 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 |

| FINISHING PROGRAMS | KEY TIPS |
|---|--|
| <p>Field grown, 3 (ppp), 13-16 (weeks), Spring</p> | <p>Drench with a fungicide at transplant. Also see Cut Flower section for more details.</p> |
| <p>Cell Pack, 1 (ppp), 6 (weeks), Early Spring 4"/4.5"/Quart/10 cm, 1 (ppp), 6 (weeks), Early Spring</p> | <p>Drench with a fungicide at transplant. 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 nitrogen. 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.</p> |
| <p>4"/4.5"/Quart/10 cm, 1 (ppp), 5-7 (weeks), Spring 5"/6"/1 Gallon/15 cm, 3 (ppp), 5-7 (weeks), Spring</p> | <p>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.</p> |
| <p>4"/4.5"/Quart/10 cm, 1 (ppp), 4-5 (weeks), Spring 5"/6"/1 Gallon/15 cm, 1 (ppp), 8-10 (weeks), Spring</p> | |
| <p>Cell Pack, 1 (ppp), 5-6 (weeks), Spring, PGR chlormequat chloride 500-700 ppm Spray 4"/4.5"/Quart/10 cm, 1 (ppp), 6-7 (weeks), Spring, PGR chlormequat chloride 500-750 ppm Spray</p> | <p>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.</p> |
| <p>Cell Pack, 1 (ppp), 6-8 (weeks), Spring Cell Pack, 1 (ppp), 5-7 (weeks), Summer</p> | <p>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 (chormequat) at 375 ppm is recommended.</p> |
| <p>Cell Pack, 1 (ppp), 6-8 (weeks), Spring Cell Pack, 1 (ppp), 5-7 (weeks), Summer</p> | <p>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 (chormequat) at 375 ppm is recommended.</p> |
| <p>4"/4.5"/Quart/10 cm, 1 (ppp), 8-9 (weeks), Spring, PGR daminozide 2,500 ppm Spray 10" Pot or HB/3 Gallon/25 cm, 7 (ppp), 12-14 (weeks), Spring, PGR daminozide 2,500 ppm Spray 4"/4.5"/Quart/10 cm, 1 (ppp), 5-6 (weeks), Summer, PGR daminozide 2,500 ppm Spray 10" Pot or HB/3 Gallon/25 cm, 7 (ppp), 8-10 (weeks), Summer, PGR daminozide 2,500 ppm Spray</p> | <p>Drench with a fungicide at transplant. Keep light as high as possible (DLI = 12 moles·m⁻²·d⁻¹) while maintaining optimal production temperatures. Maintain even moisture, avoid excessive media and foliage wetness, as these conditions are favourable for disease incidence. Plant growth regulators may not be necessary for this series. Negative DIF can be used to control height. Daminozide and ancymidol can be used for height control if needed.</p> |
| <p>Cell Pack, 1 (ppp), 5-6 (weeks), Spring, PGR daminozide 2,500 ppm Spray 4"/4.5"/Quart/10 cm, 1-3 (ppp), 5-7 (weeks), Spring, PGR daminozide 2,500 ppm Spray</p> | <p>Drench with a fungicide at transplant. Keep light as high as possible (DLI = 12 moles·m⁻²·d⁻¹) while maintaining optimal production temperatures. Maintain even moisture, avoid excessive media and foliage wetness, as these conditions are favourable for disease incidence. Plant growth regulators may not be necessary for this series. Negative DIF can be used to control height. Daminozide and ancymidol can be used for height control if needed.</p> |
| <p>Cell Pack, 1 (ppp), 5-6 (weeks), Spring, PGR daminozide 2,500 ppm Spray 4"/4.5"/Quart/10 cm, 1 (ppp), 6-7 (weeks), Spring, PGR daminozide 2,500 ppm Spray 5"/6"/1 Gallon/15 cm, 1-3 (ppp), 6-8 (weeks), Spring, PGR daminozide 2,500 ppm Spray</p> | <p>Drench with a fungicide at transplant. Keep light as high as possible (DLI = 12 moles·m⁻²·d⁻¹) 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. Daminozide and ancymidol can be used for height control if needed.</p> |
| <p>Cell Pack, 1 (ppp), 3-4 (weeks), Spring, PGR daminozide 2,500 ppm Spray 4"/4.5"/Quart/10 cm, 1 (ppp), 4-5 (weeks), Spring, PGR daminozide 2,500 ppm Spray 5"/6"/1 Gallon/15 cm, 3 (ppp), 4-6 (weeks), Spring, PGR daminozide 2,500 ppm Spray</p> | <p>Drench with a fungicide at transplant. Keep light as high as possible (DLI = 12 moles·m⁻²·d⁻¹) while maintaining optimal production temperatures. Maintain even moisture, avoid excessive media and foliage wetness, as these conditions are favourable for disease incidence. Plant growth regulators may not be necessary for this series. Negative DIF can be used to control height. Daminozide and ancymidol can be used for height control if needed.</p> |

| CLASS/SERIES | RECOMMENDED PLUG SIZE | GROWING ON TEMPERATURE (DAYS/NIGHTS) | TARGET MEDIA PH/EC (1:2) | DAYLENGTH |
|---|-----------------------|--|--------------------------------|-----------------------|
| VINCA <i>Catharanthus roseus</i> Valiant™ F₁ Series | 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 |
| VIOLA <i>Viola cornuta</i> Frizzle Sizzle Mini F₁ Series | 288 | (day) 60-70°F (16-21°C) (night) 50-55°F (10-13°C) | | Facultative Long Day |
| VIOLA <i>Viola cornuta</i> Quicktime™ F₁ Series | 288 | (day) 60°F (16°C) (night) 50-55°F (10-13°C) | | Facultative Long Day |
| VIOLA <i>Viola cornuta</i> Sorbet® F₁ Series | 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 |
| VIOLA <i>Viola cornuta</i> Sorbet® XP F₁ Series | 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 |
| ZINNIA <i>Zinnia marylandica</i> Double Zahara™ Series | 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 |
| ZINNIA <i>Zinnia angustifolia</i> Star Series | 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 |
| ZINNIA <i>Zinnia elegans (syn. Zinnia violaceae)</i> State Fair Series | 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 |
| ZINNIA <i>Zinnia marylandica</i> Zahara® Series | 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 |
| ZINNIA <i>Zinnia elegans (syn. Zinnia violaceae)</i> Zesty™ Series | 288 | (day) 70-85°F (21-29°C) (night) 60-68°F (16-20°C) | 5.5-6.0 pH 0.75 mmhos/cm | Facultative Short Day |

| FINISHING PROGRAMS | KEY TIPS |
|---|--|
| <p>Cell Pack, 1 (ppp), 3-4 (weeks), Spring, PGR daminozide 2,500 ppm Spray 4"/4.5"/Quart/10 cm, 1 (ppp), 4-5 (weeks), Spring, PGR daminozide 2,500 ppm Spray 5"/6"/1 Gallon/15 cm, 3 (ppp), 4-6 (weeks), Spring, PGR daminozide 2,500 ppm Spray</p> | <p>Drench with a fungicide at transplant. Keep light as high as possible (DLI = 12 moles·m⁻²·d⁻¹) while maintaining optimal production temperatures. Maintain even moisture and avoid excessive media and foliage wetness, as these conditions are favorable for disease incidence. Plant growth regulators may not be necessary for this series. Negative DIF can be used to control height. Daminozide and ancymidol can be used for height control if needed.</p> |
| <p>Cell Pack, 1 (ppp), 6-7 (weeks), Early Spring, PGR daminozide 1,500-2,500 ppm Spray 4"/4.5"/Quart/10 cm, 1 (ppp), 6-7 (weeks), Early Spring, PGR daminozide 1,500-2,500 ppm Spray 5"/6"/1 Gallon/15 cm, 3 (ppp), 6-7 (weeks), Early Spring, PGR daminozide 1,500-2,500 ppm Spray</p> | <p>Adjust PGR rates and frequency of application depending on local conditions. For maximum ruffled edge, schedule for late Autumn, Winter and Spring programs. Heat reduces the ruffled edge and colour contrast.</p> |
| <p>Cell Pack, 1 (ppp), 5-6 (weeks), Early Spring, PGR daminozide 1,500-2,500 ppm Spray 4"/4.5"/Quart/10 cm, 1 (ppp), 5-6 (weeks), Early Spring, PGR daminozide 1,500-2,500 ppm Spray 5"/6"/1 Gallon/15 cm, 3 (ppp), 5-6 (weeks), Early Spring, PGR daminozide 1,500-2,500 ppm Spray</p> | <p>Under northern overwinter growing culture, where night temperatures are just above freezing (frost protection), Quicktime varieties will be up to 2 weeks faster to finish in production than Sorbet XP.</p> |
| <p>Cell Pack, 1 (ppp), 5-7 (weeks), Early Spring, PGR daminozide 1,500-2,500 ppm Spray 4"/4.5"/Quart/10 cm, 1 (ppp), 5-7 (weeks), Early Spring, PGR daminozide 1,500-2,500 ppm Spray 5"/6"/1 Gallon/15 cm, 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/10 cm, 1 (ppp), 4-5 (weeks), Autumn, PGR daminozide 2,500-5,000 ppm Spray 5"/6"/1 Gallon/15 cm, 3 (ppp), 3-4 (weeks), Autumn, PGR daminozide 2,500-5,000 ppm Spray</p> | <p>Adjust PGR rates and frequency of application depending on local conditions.</p> |
| <p>Cell Pack, 1 (ppp), 5-7 (weeks), Early Spring, PGR daminozide 1,500-2,500 ppm Spray 4"/4.5"/Quart/10 cm, 1 (ppp), 5-7 (weeks), Early Spring, PGR daminozide 1,500-2,500 ppm Spray 5"/6"/1 Gallon/15 cm, 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/10 cm, 1 (ppp), 4-5 (weeks), Autumn, PGR daminozide 2,500-5,000 ppm Spray 5"/6"/1 Gallon/15 cm, 3 (ppp), 3-4 (weeks), Autumn, PGR daminozide 2,500-5,000 ppm Spray</p> | <p>Adjust PGR rates and frequency of application depending on local conditions.</p> |
| <p>4"/4.5"/Quart/10 cm, 1 (ppp), 8-9 (weeks), Spring, PGR daminozide 3,500-5,000 ppm Spray 5"/6"/1 Gallon/15 cm, 3 (ppp), 8-9 (weeks), Spring, PGR daminozide 3,500-5,000 ppm Spray 4"/4.5"/Quart/10 cm, 1 (ppp), 5-6 (weeks), Summer, PGR daminozide 3,500-5,000 ppm Spray 5"/6"/1 Gallon/15 cm, 3 (ppp), 5-6 (weeks), Summer, PGR daminozide 3,500-5,000 ppm Spray</p> | <p>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.</p> |
| <p>Cell Pack, 1 (ppp), 5-6 (weeks), Spring 4"/4.5"/Quart/10 cm, 1 (ppp), 6-7 (weeks), Spring</p> | <p>Avoid excessive moisture on plants and flowers. Monitor for Botrytis.</p> |
| <p>4"/4.5"/Quart/10 cm, 1 (ppp), 6-7 (weeks), Spring 5"/6"/1 Gallon/15 cm, 1 (ppp), 7-8 (weeks), Spring</p> | <p>Avoid excessive moisture on plants and flowers. Monitor for Botrytis.</p> |
| <p>4"/4.5"/Quart/10 cm, 1 (ppp), 8-9 (weeks), Spring, PGR daminozide 3,500 ppm Spray 5"/6"/1 Gallon/15 cm, 3 (ppp), 8-9 (weeks), Spring, PGR daminozide 3,500 ppm Spray 4"/4.5"/Quart/10 cm, 1 (ppp), 5-6 (weeks), Summer, PGR daminozide 3,500 ppm Spray 5"/6"/1 Gallon/15 cm, 3 (ppp), 5-6 (weeks), Summer, PGR daminozide 3,500 ppm Spray</p> | <p>Avoid excessive moisture on plants and flowers. Monitor for Botrytis.</p> |
| <p>4"/4.5"/Quart/10 cm, 1 (ppp), 6-7 (weeks), Spring, PGR daminozide 1,500-3,500 ppm Spray 5"/6"/1 Gallon/15 cm, 1 (ppp), 6-7 (weeks), Spring, PGR daminozide 1,500-3,500 ppm Spray 4"/4.5"/Quart/10 cm, 1 (ppp), 6-7 (weeks), Late Spring, PGR paclobutrazol 5 ppm Drench 5"/6"/1 Gallon/15 cm, 1 (ppp), 6-7 (weeks), Late Spring, PGR paclobutrazol 5 ppm Drench</p> | <p>Growth regulators are recommended for pack and container production. Foliar sprays of daminozide at 1,500-3,500 ppm (rate dependent on temperature) applied 2 to 3 times are beneficial for Zesty zinnia. First application can be done 1 week after transplant, followed by a second application one week later. If necessary, a third application can be done 3 to 4 weeks after transplant. Adjust PGR rates and frequency of application depending on local conditions. Keep light as high as possible. A DLI below 8 mol·m⁻²·d⁻¹ reduces flower doubleness on this crop.</p> |

PERENNIALS

*KieftSeed*TM



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| WAVE | PHOTOPERIODIC LIGHTING CHART P. 4 |
| ANNUALS | PROPAGATION GUIDE P. 8 / FINISHING GUIDE P. 46 |
| POTTED PLANTS | PROPAGATION GUIDE P. 112 / FINISHING GUIDE P. 118 |
| CUT FLOWERS | PROPAGATION GUIDE P. 124 / FINISHING GUIDE P. 132 |
| VEGETABLES & HERBS | |
| HANDPICKED | PROPAGATION GUIDE P. 142 / FINISHING GUIDE P. 156 |
| KITCHEN MINIS | PROPAGATION GUIDE P. 168 / FINISHING GUIDE P. 172 |



| CLASS/SERIES | SEED FORM | RECOMMENDED PLUG SIZE | PLUG CROP WEEKS | SEEDS/ CELL | COVER SEED | DAYS FROM 50% TO MAXIMUM GERMINATION | INITIAL MEDIA PH/EC (1:2) | STAGE 1 |
|---|-----------|-----------------------|-----------------|-------------|-------------|--------------------------------------|---------------------------------|---|
| AQUILEGIA <i>Aquilegia x hybrida</i> Earlybird™ F₁ Series | RAW | 288 | 6-7 | 1 | Optional | 7-14 | 5.8-6.4 pH 0.75 mmhos/cm | (m) Level 4 (t) 72-77°F (22-25°C) (l) Optional (f) Less than 100 ppm N (Less than 0.7 EC) |
| AQUILEGIA <i>Aquilegia x hybrida</i> Swan F₁ Series | 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) |
| AQUILEGIA <i>Aquilegia vulgaris</i> Winky Double Series | 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 |
| AQUILEGIA <i>Aquilegia vulgaris</i> Winky Single Series | 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 |
| ARMERIA <i>Armeria pseudarmeria</i> Ballerina Series | 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 |
| AURINIA <i>Aurinia saxatile</i> Gold Rush | RAW | 288 | 6-7 | 4 | No | 3-5 | 5.5-6.4 pH 1.1-1.3 mmhos/cm | (m) Level 4 (t) 65-72°F (18-22°C) (l) Optional |
| BELLIS <i>Bellis perennis</i> Bellissima™ Series | 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 |
| CAMPANULA <i>Campanula carpatica</i> Rapido F₁ Series | 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) Optional |
| COREOPSIS <i>Coreopsis grandiflora</i> Double the Sun | 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 |
| COREOPSIS <i>Coreopsis grandiflora</i> Early Sunrise | 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 |
| COREOPSIS <i>Coreopsis grandiflora</i> Sunfire | 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 |

| | STAGE 2 | STAGE 3 | STAGE 4 | VERNALIZATION REQUIRED | KEY TIPS |
|--|--|---|---|--|--|
| | (m) Level 4 (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) (p) ancymidol 2 ppm Spray | (m) Level 3 (t) 65-70°F (18-21°C) (l) 6-8 mol·m ⁻² ·d ⁻¹ , 2,500 f.c. (26,900 Lux) (f) 100 to 175 ppm N (0.7 to 1.2 EC) (p) ancymidol 2 ppm Spray | (m) Level 2 (t) 60-65°F (16-18°C) (l) 6-8 mol·m ⁻² ·d ⁻¹ , 5,000 f.c. (53,800 Lux) (f) 100 to 175 ppm N (0.7 to 1.2 EC) (p) ancymidol 2 ppm Spray | Yes-Low vernalization requirement, only 4 weeks at 50-55°F (10-13°C) from 5 to 6 true leaves onwards. | Maintaining moisture above level 3 in Stage 1 and 2 is critical for germination and seedling development. Responsive to weekly ancymidol 2 ppm spray or ancymidol 2 ppm/daminozide 2,500 ppm tank mix beginning 3 weeks from sowing. |
| | (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 | |
| | (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 | |
| | (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 | |
| | (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 |
| | (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-6 to 8 weeks ADT 50°F (10°C) starting at 10 true leaves | Aurinia is a rock garden plant. Provide good drainage and an active climate in high light. |
| | (m) Level 3 (t) 65-68°F (18-20°C) (l) 6-8 mol·m ⁻² ·d ⁻¹ (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 ⁻² ·d ⁻¹ (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 ⁻² ·d ⁻¹ (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. |
| | (m) Level 3-4 (t) 65-68°F (18-20°C) (l) 6-8 mol·m ⁻² ·d ⁻¹ (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 ⁻² ·d ⁻¹ (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 ⁻² ·d ⁻¹ (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 |
| | (m) Level 3-4 (t) 65-68°F (18-20°C) (l) 6-8 mol·m ⁻² ·d ⁻¹ (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 ⁻² ·d ⁻¹ (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 ⁻² ·d ⁻¹ (f) 175 to 225 ppm N (1.2 to 1.5 EC) | No | Critical Daylength: 11 hours for 100% flowering but up to 3 weeks faster flowering at ≥13 hours than shorter photoperiods. For forcing info: See Perennials Forcing Guide. 1 to 2 seeds 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. |
| | (m) Level 3-4 (t) 65-68°F (18-20°C) (l) 6-8 mol·m ⁻² ·d ⁻¹ (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 ⁻² ·d ⁻¹ (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 ⁻² ·d ⁻¹ (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. |
| | (m) Level 3-4 (t) 65-68°F (18-20°C) (l) 6-8 mol·m ⁻² ·d ⁻¹ (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 ⁻² ·d ⁻¹ (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 ⁻² ·d ⁻¹ (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). |

(m) moisture (t) temperature (l) light (f) fertilizer (p) plant growth regulators

| CLASS/SERIES | SEED FORM | RECOMMENDED PLUG SIZE | PLUG CROP WEEKS | SEEDS/ CELL | COVER SEED | DAYS FROM 50% TO MAXIMUM GERMINATION | INITIAL MEDIA PH/EC (1:2) | STAGE 1 |
|---|-----------|-----------------------|-----------------|-------------|-------------|--------------------------------------|--------------------------------|--|
| COREOPSIS <i>Coreopsis grandiflora</i> SunKiss | 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 |
| DELPHINIUM <i>Delphinium x belladonna</i> Blue Donna | 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 |
| DELPHINIUM <i>Delphinium elatum</i> Dasante Blue F₁ | 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 |
| DELPHINIUM <i>Delphinium grandiflorum</i> Diamonds Blue F₁ | 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 |
| DELPHINIUM <i>Delphinium elatum</i> Guardian F₁ Series | 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 |
| DIANTHUS <i>Dianthus x barbatus interspecific</i> Rockin™ F₁ Series | 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 |
| DIGITALIS <i>Digitalis purpurea</i> Dalmatian F₁ Series | 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 |
| ECHINACEA <i>Echinacea x hybrida</i> Artisan™ Collection F₁ Series | AMP | 128 72 | 5-6 11-13 | 1 1 | Yes | 4-10 | 5.8-6.2 pH 0.75 mmhos/cm | (m) Level 4 (t) 71-77°F (22-25°C) (l) Optional |
| ECHINACEA <i>Echinacea x hybrida</i> Cheyenne Spirit | 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 |
| ECHINACEA <i>Echinacea purpurea</i> PowWow® Series | 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 |

| STAGE 2 | STAGE 3 | STAGE 4 | VERNALIZATION REQUIRED | KEY TIPS |
|---|---|---|------------------------|---|
| (m) Level 3-4 (t) 65-68°F (18-20°C) (l) 6-8 mol·m ⁻² ·d ⁻¹ (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 ⁻² ·d ⁻¹ (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 ⁻² ·d ⁻¹ (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. |
| (m) Level 3 (t) 65-68°F (18-20°C) (l) 6-8 mol·m ⁻² ·d ⁻¹ (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 ⁻² ·d ⁻¹ (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 ⁻² ·d ⁻¹ (f) 100 to 175 ppm N (0.7 to 1.2 EC) | No | For forcing info: See Perennials Forcing Guide. Spray damp-off fungicide. |
| (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) | No | |
| (m) Level 3 (t) 65-70°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. |
| (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. |
| (m) Level 3-4 (t) 65-70°F (18-21°C) (l) 5-8 mol·m ⁻² ·d ⁻¹ (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 ⁻² ·d ⁻¹ (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 ⁻² ·d ⁻¹ (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. |
| (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. |
| (m) Level 3-4 (t) 71-73°F (22-23°C) (l) 5-8 mol·m ⁻² ·d ⁻¹ (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 ⁻² ·d ⁻¹ (f) 150 to 175 ppm N (1.0 to 1.2 EC) | (m) Level 2-4 (t) 65-67°F (18-19°C) (l) 10-15 mol·m ⁻² ·d ⁻¹ (f) 175-225 ppm N (1.2 to 1.5 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 128 is the minimum size for SD grown plugs to 7 fully mature leaves. For more forcing info: See Perennials Forcing Guide and GrowerFacts Extra Spring and Fall forcing. |
| (m) Level 3-4 (t) 71-73°F (22-23°C) (l) 5-8 mol·m ⁻² ·d ⁻¹ (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 ⁻² ·d ⁻¹ (f) 150 to 175 ppm N (1.0 to 1.2 EC) | (m) Level 2-4 (t) 65-67°F (18-19°C) (l) 10-15 mol·m ⁻² ·d ⁻¹ (f) 175-225 ppm N (1.2 to 1.5 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 128 is the minimum size for SD grown plugs to 7 fully mature leaves. For more forcing info: See Perennials Forcing Guide and GrowerFacts Extra Spring and Fall forcing. |
| (m) Level 3-4 (t) 71-73°F (22-23°C) (l) 5-8 mol·m ⁻² ·d ⁻¹ (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 ⁻² ·d ⁻¹ (f) 150 to 175 ppm N (1.0 to 1.2 EC) | (m) Level 2-4 (t) 65-67°F (18-19°C) (l) 10-15 mol·m ⁻² ·d ⁻¹ (f) 175-225 ppm N (1.2 to 1.5 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 128 is the minimum size for SD grown plugs to 7 fully mature leaves. For more forcing info: See Perennials Forcing Guide and GrowerFacts Extra Spring and Fall forcing. |

(m) moisture (t) temperature (l) light (f) fertilizer (p) plant growth regulators

| CLASS/SERIES | SEED FORM | RECOMMENDED PLUG SIZE | PLUG CROP WEEKS | SEEDS/ CELL | COVER SEED | DAYS FROM 50% TO MAXIMUM GERMINATION | INITIAL MEDIA PH/EC (1:2) | STAGE 1 |
|--|-----------|-----------------------|-----------------|-------------|------------|--------------------------------------|--------------------------------|--|
| GAILLARDIA <i>Gaillardia x grandiflora</i> Mesa™ F₁ Series | 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 |
| GAURA <i>Gaura lindheimeri</i> Sparkle White | 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 |
| GYPSOPHILA <i>Gypsophila cerastoides</i> Pixie Splash | 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 |
| HEUCHERA <i>Heuchera x hybrida</i> Melting Fire | PEL | 288 128 | 9-11 10-11 | 4-5 6-8 | No | 9-14 | 5.8-6.2 pH 0.75 mmhos/cm | (m) Level 4 (t) 70-72°F (21-22°C) (l) Light |
| HEUCHERA <i>Heuchera micrantha</i> Palace Purple | 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 |
| HIBISCUS <i>Hibiscus moscheutos</i> Luna™ F₁ Series | 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 |
| IBERIS <i>Iberis sempervirens</i> Whiteout F₁ | 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 |
| LAVANDULA <i>Lavandula angustifolia</i> Avignon Early Blue | 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 |

| STAGE 2 | STAGE 3 | STAGE 4 | VERNALIZATION REQUIRED | KEY TIPS |
|--|---|---|--|---|
| (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. |
| (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. |
| (m) Level 3 (t) 60-65°F (16-18°C) (l) 6-8 mol-m ² -d ⁻¹ (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 ² -d ⁻¹ (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 ² -d ⁻¹ | Yes-duration of 8 weeks; max 40°F (4°C) | Spray damp-off fungicide. |
| (m) Level 4-3 (t) 65-68°F (18-20°C) (l) 4-5 mol-m ² -d ⁻¹ (f) Less than 100 ppm N (Less than 0.7 EC) | (m) Level 4-3 (t) 65-68°F (18-20°C) (l) 4-8 mol-m ² -d ⁻¹ (f) 100 to 175 ppm N (0.7 to 1.2 EC) | (m) Level 3-2 (t) 65-68°F (18-20°C) (l) 6-10 mol-m ² -d ⁻¹ (f) 100 to 175 ppm N (0.7 to 1.2 EC) | No-vernalization not needed when sold for foliage | Keep medium moisture level 4 and RH 80% on stage 1; not too wet!! Upon removal from germination chamber, place in propagation house with bottom heat (70°F/21°C soil temperature). Use very light mist to maintain humidity but allowing media to dry to 3.5. (trays would need mist watered as necessary when they dried to a 3). Trays would stay in propagation under mist up to 3 weeks. 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 Curls) and is an economical approach already being applied commercially. For forcing info: See Perennials Forcing Guide. |
| (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. |
| (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. |
| (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. |
| (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, Lavandula angustifolia can show "black spots" on cotyledons due to root pressure damage. This is reversible with improved ventilation and higher fertilization. |

(m) moisture (t) temperature (l) light (f) fertilizer (p) plant growth regulators

| CLASS/SERIES | SEED FORM | RECOMMENDED PLUG SIZE | PLUG CROP WEEKS | SEEDS/ CELL | COVER SEED | DAYS FROM 50% TO MAXIMUM GERMINATION | INITIAL MEDIA PH/EC (1:2) | STAGE 1 |
|--|-----------|-----------------------|-----------------|-------------|-------------|--------------------------------------|--------------------------------|--|
| LAVANDULA <i>Lavandula stoechas</i> Bandera Series | 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 |
| LAVANDULA <i>Lavandula angustifolia</i> Blue Spear | 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 |
| LAVANDULA <i>Lavandula angustifolia</i> Ellagance Series | 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 |
| LAVANDULA <i>Lavandula angustifolia</i> Lavace Deep Purple | 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) |
| LAVANDULA <i>Lavandula multifida</i> Spanish Eyes | 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 |
| LEUCANTHEMUM <i>Leucanthemum x superbum</i> , <i>Chrysanthemum maximum</i> Madonna F₁ | RAW | 288 72 | 6-7 7-8 | 1 4 | Optional | 4-10 | 5.5-6.2 pH 0.2-0.5 mmhos/cm | (m) Level 4 (t) 68-77°F (20-25°C) (l) Optional |
| LEUCANTHEMUM <i>Leucanthemum x superbum</i> White Lion F₁ | RAW | 288 72 | 6-7 7-8 | 1 4 | Optional | 4-10 | 5.5-6.2 pH 0.2-0.5 mmhos/cm | (m) Level 4 (t) 68-77°F (20-25°C) (l) Optional |

| STAGE 2 | STAGE 3 | STAGE 4 | VERNALIZATION REQUIRED | KEY TIPS |
|--|--|--|------------------------|---|
| (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 | At sowing, do not cover the seeds too heavily, as it will significantly decrease germination. At Stage 1 germination, pull from the germination chamber at 10 to 15% visible radicle emergence and grow at 60 to 65°F (16 to 18°C) to avoid stretch. L. stoechas may stretch easily at higher temperatures in the early plug phase. 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. |
| (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, watering in the early morning to allow the plugs to dry up during the day. If respiration and fertilization are too low, Lavandula angustifolia can show "black spots" on cotyledons due to root pressure damage. This is reversible with improved ventilation and higher fertilization. |
| (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, Lavandula angustifolia can show "black spots" on cotyledons due to root pressure damage. This is reversible with improved ventilation and higher fertilization. |
| (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, Lavandula angustifolia can show "black spots" on cotyledons due to root pressure damage. This is reversible with improved ventilation and higher fertilization. |
| (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. |
| (m) Level 3-4 (t) 65-68°F (18-20°C) (l) 3,000-5,000 f.c. (32,300-53,800 Lux) (f) Less than 100 ppm N (Less than 0.7 EC) | (m) Level 2-3 (t) 65-68°F (18-20°C) (l) 5,000-7,000 f.c. (53,800-75,300 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) 5,000-7,000 f.c. (53,800-75,300 Lux) (f) 100 to 175 ppm N (0.7 to 1.2 EC) | No | Avoid high soluble salts. Provide an active climate, including air movement and relatively high light levels. Do not grow too long, as old plugs show irregular growing after transplant. |
| (m) Level 3-4 (t) 65-68°F (18-20°C) (l) 3,000-5,000 f.c. (32,300-53,800 Lux) (f) Less than 100 ppm N (Less than 0.7 EC) | (m) Level 2-3 (t) 65-68°F (18-20°C) (l) 5,000-7,000 f.c. (53,800-75,300 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) 5,000-7,000 f.c. (53,800-75,300 Lux) (f) 100 to 175 ppm N (0.7 to 1.2 EC) | No | Avoid high soluble salts. Provide an active climate, including air movement and relatively high light levels. Do not grow too long, as old plugs show irregular growing after transplant. |

(m) moisture (t) temperature (l) light (f) fertilizer (p) plant growth regulators

| CLASS/SERIES | SEED FORM | RECOMMENDED PLUG SIZE | PLUG CROP WEEKS | SEEDS/ CELL | COVER SEED | DAYS FROM 50% TO MAXIMUM GERMINATION | INITIAL MEDIA PH/EC (1:2) | STAGE 1 |
|--|-----------|-----------------------|-----------------|-------------|-------------|--------------------------------------|-----------------------------|---|
| LOBELIA <i>Lobelia x speciosa</i> Starship™ F₁ Series | PEL | 288 | 8-10 | 1 | Light cover | 8-14 | 5.8-6.2 pH 0.75 mmhos/cm | (m) Level 4 (t) 72-77°F (22-25°C) (l) Light |
| MYOSOTIS <i>Myosotis sylvatica</i> Mon Amie Series | 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 |
| PAPAVER <i>Papaver nudicaule</i> Champagne Bubbles F₁ Series | 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 |
| PENSTEMON <i>Penstemon heterophyllus</i> Electric Blue | 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 |
| PEROVSKIA <i>Perovskia atriplicifolia</i> Blue Steel | RAW | 288 72 | 5-9 7-10 | 1 3-4 | Light cover | 2-4 | 5.8-6.2 pH 0.75 mmhos/cm | (m) Level 4-5 (t) 65-74°F (18-23°C) (l) Optional |
| PEROVSKIA <i>Perovskia atriplicifolia</i> Bluesette | RAW | 288 72 | 5-6 7-8 | 1 3-4 | Light cover | 2-7 | 5.8-6.2 pH 0.75 mmhos/cm | (m) Level 4 (t) 68-77°F (20-25°C) (l) Light (f) Less than 100 ppm N (Less than 0.7 EC) |
| RUDBECKIA <i>Rudbeckia fulgida</i> <i>var. sullivantii</i> Goldblitz | PRM | 288 72 | 6-8 12-14 | 1 2-3 | Light cover | 2-4 | 5.8-6.5 pH 0.75 mmhos/cm | (m) Level 5-4 (t) 72-77°F (22-25°C) (l) Optional (f) Less than 100 ppm N (Less than 0.7 EC) |
| RUDBECKIA <i>Rudbeckia fulgida</i> <i>var. sullivantii</i> Goldsturm | PRM | 288 72 | 6-8 14 | 2 3-4 | Yes | 3-5 | 5.8-6.5 pH 0.75 mmhos/cm | (m) Level 4 (t) 72-77°F (22-25°C) (l) Light |

| STAGE 2 | STAGE 3 | STAGE 4 | VERNALIZATION REQUIRED | KEY TIPS |
|--|--|--|--|--|
| <p>(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)</p> | <p>(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) (p) daminozide 1,500-2,500 ppm Spray</p> | <p>(m) Level 3-2 (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 1,500-2,500 ppm Spray</p> | No | <p>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 medium moisture level 4 and RH 80% on Stage 1; not too wet!! Upon removal from Germ chamber, place in prop house with bottom heat (70°F/21°C). Use very light mist to maintain high humidity (70%+), when media reaches level 3, trays need to be mist watered again. Trays would stay in propagation under mist up to 3 weeks. Starship Deep Rose has 7 to 10 days longer plug lead time, due to a slower start.</p> |
| <p>(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)</p> | <p>(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> | <p>(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)</p> | No | Maintain low pH to avoid chlorosis. |
| <p>(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> | <p>(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> | <p>(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> | No | Spray damp-off fungicide. Avoid high pH (>6.1) that causes chlorosis from iron deficiency. |
| <p>(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)</p> | <p>(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)</p> | <p>(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> | 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. |
| <p>(m) Level 4 (t) 65-72°F (18-22°C) (l) 6-8 mol·m⁻²·d⁻¹ (f) 100 to 175 ppm N (0.7 to 1.2 EC) (p) daminozide 2,500 ppm Spray</p> | <p>(m) Level 3 (t) 64-68°F (18-20°C) (l) 6-8 mol·m⁻²·d⁻¹ (f) 175 to 225 ppm N (1.2 to 1.5 EC) (p) daminozide 2,500 ppm Spray</p> | <p>(m) Level 2 (t) 60-65°F (16-18°C) (l) 6-8 mol·m⁻²·d⁻¹ (f) 175 to 225 ppm N (1.2 to 1.5 EC) (p) daminozide 2,500 ppm Spray</p> | No | <p>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.</p> |
| <p>(m) Level 4-3 (t) 68-73°F (20-23°C) (l) 6-8 mol·m⁻²·d⁻¹ (f) 100 to 175 ppm N (0.7 to 1.2 EC)</p> | <p>(t) 64-68°F (18-20°C) (l) 6-8 mol·m⁻²·d⁻¹ (f) 175 to 225 ppm N (1.2 to 1.5 EC)</p> | <p>(t) 60-65°F (16-18°C) (l) 6-8 mol·m⁻²·d⁻¹ (f) 175 to 225 ppm N (1.2 to 1.5 EC)</p> | No | <p>For forcing info: See Perennials Forcing Guide. Genetically compact variety requires an active climate. No PGRs needed, except in unfavorable climate conditions, the Alar 1 x spray at 1,500 ppm could be used. Pinching not really needed, optional for smaller containers; pinch at 3 to 4 nodes, approximately 2 to 3 weeks after transplant. Difficult to pinch in plug stage. Spray fungicide directly after sowing to prevent damping off.</p> |
| <p>(m) Level 4 (t) 68-74°F (20-23°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> | <p>(m) Level 3-4 (t) 65-70°F (18-21°C) (l) 2,000-2,500 f.c. (21,500-26,900 Lux) (f) 175 to 225 ppm N (1.2 to 1.5 EC)</p> | <p>(m) Level 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> | No | No PGR plug needed. For forcing info: See Perennials Forcing Guide. |
| <p>(m) Level 3-4 (t) 68-74°F (20-23°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> | <p>(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)</p> | <p>(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> | No | <p>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.</p> |

(m) moisture (t) temperature (l) light (f) fertilizer (p) plant growth regulators

| CLASS/SERIES | SEED FORM | RECOMMENDED PLUG SIZE | PLUG CROP WEEKS | SEEDS/ CELL | COVER SEED | DAYS FROM 50% TO MAXIMUM GERMINATION | INITIAL MEDIA PH/EC (1:2) | STAGE 1 |
|--|-----------|-----------------------|-----------------|-------------|-------------|--------------------------------------|-----------------------------|--|
| SALVIA <i>Salvia nemorosa</i> New Dimension™ Series | RAW | 288 128 | 5-6 7 | 2-4 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 |
| SALVIA <i>Salvia nemorosa</i> Salvatore Blue | RAW | 288 128 | 5-6 5-6 | 1 2-3 | 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 |
| SALVIA <i>Salvia patens</i> Patio Series | 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 |
| SCABIOSA <i>Scabiosa columbaria</i> Blue Note | 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 |
| SCABIOSA <i>Scabiosa japonica var. alpina</i> Pink Diamonds | 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 |
| SILENE <i>Silene alpestris</i> Starry Dreams | 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 |
| VERBASCUM <i>Verbascum x hybrida</i> Southern Charm | 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 |
| VERBENA <i>Verbena bonariensis</i> Buenos Aires | 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 |
| VERBENA <i>Verbena rigida</i> Santos Purple | 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 |

| | STAGE 2 | STAGE 3 | STAGE 4 | VERNALIZATION REQUIRED | KEY TIPS |
|--|--|---|---|------------------------|--|
| | (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. |
| | (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 1,000-1,500 ppm Spray | (m) Level 2 (t) 60-65°F (16-18°C) (l) 4,000-5,000 f.c. (43,100-53,800 Lux) (f) 175 to 225 ppm N (1.2 to 1.5 EC) (p) daminozide 1,500-2,000 ppm Spray | No | Grow in an active climate. Avoid moist and high relative humidity. |
| | (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. |
| | (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. |
| | (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. |
| | (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. |
| | (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 | |
| | (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) (p) daminozide/ chlormequat chloride tank mix 1,500/200-2,500/300 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/ chlormequat chloride tank mix 2,500/300-3,750/500 ppm Spray | No | For forcing info: See Perennials Forcing Guide. Spray damp-off fungicide. Grow relatively dry after Stage 1. |
| | (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) (p) daminozide/ chlormequat chloride tank mix 1,500/200-2,500/300 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/ chlormequat chloride tank mix 2,500/300-3,750/500 ppm Spray | No | For forcing info: see Perennials Forcing Guide. Spray damp-off fungicide. |

(m) moisture (t) temperature (l) light (f) fertilizer (p) plant growth regulators

| CLASS/SERIES | HARDINESS ZONE | RECOMMENDED PLUG SIZE | GROWING ON TEMPERATURE (DAYS/NIGHTS) | TARGET MEDIA PH/EC (1:2) | DAYLENGTH |
|---|----------------|-----------------------|--|--------------------------------|--|
| AQUILEGIA <i>Aquilegia x hybrida</i> Earlybird™ F₁ Series | 3-9 | 288 | (day) 65-68°F (18-20°C) (night) 50-54°F (10-12°C) | 5.8-6.2 pH 1.3-1.8 mmhos/cm | Day Neutral |
| AQUILEGIA <i>Aquilegia x hybrida</i> Swan F₁ Series | 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. |
| AQUILEGIA <i>Aquilegia vulgaris</i> Winky Double Series | 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. |
| AQUILEGIA <i>Aquilegia vulgaris</i> Winky Single Series | 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. |
| ARMERIA <i>Armeria pseudarmeria</i> Ballerina Series | 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 |
| AURINIA <i>Aurinia saxatile</i> Gold Rush | 3-9 | 288 | (day) 60-65°F (16-18°C) (night) 50-54°F (10-12°C) | 5.5-6.4 pH 1.2-1.5 mmhos/cm | Day Neutral |
| BELLIS <i>Bellis perennis</i> Bellissima™ Series | 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 |
| CAMPANULA <i>Campanula carpatica</i> Rapido F₁ Series | 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. |

| VERNALIZATION REQUIRED | FINISHING PROGRAMS FOR ANNUAL AND OVERWINTER PRODUCTION | KEY TIPS |
|--|---|--|
| Yes-Low vernalization requirement, only 4 weeks at 50-55°F (10-13°C) from 5 to 6 true leaves onwards. | <p>Annual, 4"/4.5"/Quart/10 cm, 1 (ppp), 12-16 (weeks), Spring, ADT 55°F (13°C) PGR daminozide/ancymidol tank mix 2,500-10 ppm Spray Overwinter, 4"/4.5"/Quart/10 cm, 1 (ppp), 20-30 (weeks), Early Spring, ADT 50°F (10°C) PGR daminozide/ancymidol tank mix 2,500-10 ppm Spray Overwinter, 5"/6"/1 Gallon/15 cm, 2-3 (ppp), 20-30 (weeks), Early Spring, ADT 50°F (10°C) PGR daminozide/ancymidol tank mix 2,500-10 ppm Spray Annual, 5"/6"/1 Gallon/15 cm, 2-3 (ppp), 13-16 (weeks), Spring, ADT 55°F (13°C) PGR daminozide/ancymidol tank mix 2,500-10 ppm Spray</p> | Avoid flowering beneath the foliage in very short natural daylength period. When producing under natural daylength shorter than 11 hours, 15 minutes during flower development stage (about 4 weeks from your target sales date), flowers could hide beneath foliage. Supplemental long day lighting (night interruption from 10 pm to 2 am or 16-hour daylength extension) will achieve flower stem elongation. |
| 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 | <p>Annual, 5"/6"/1 Gallon/15 cm, 1 (ppp), 22-28 (weeks), Spring PGR daminozide/ancymidol tank mix 2,500/10 ppm Spray Overwinter, 5"/6"/1 Gallon/15 cm, 1 (ppp), 32-38 (weeks), Autumn PGR daminozide/ancymidol tank mix 2,500/10 ppm Spray</p> | Requires night temperatures below 55°F (13°C) to initiate flower buds. |
| Yes-duration of 8 to 10 weeks; juvenility min. 10 to 12 true leaves | <p>Overwinter, 4"/4.5"/Quart/10 cm, 1-2 (ppp), 32-40 (weeks), Spring PGR daminozide 1,250-2,500 ppm Spray Overwinter, 5"/6"/1 Gallon/15 cm, 2-4 (ppp), 32-40 (weeks), Spring PGR daminozide 1,250-2,500 ppm Spray</p> | Keep RH at optimum 65%. Outside crops can be forced indoors at 54 to 59°F (12 to 15°C). |
| Yes-duration of 8 to 10 weeks; juvenility min. 10 to 12 true leaves | <p>Overwinter, 4"/4.5"/Quart/10 cm, 1-2 (ppp), 32-40 (weeks), Spring PGR daminozide 1,250-2,500 ppm Spray Overwinter, 5"/6"/1 Gallon/15 cm, 2-4 (ppp), 32-40 (weeks), Spring PGR daminozide 1,250-2,500 ppm Spray</p> | Keep RH at optimum 65%. Outside crops can be forced indoors at 54 to 59°F (12 to 15°C). |
| No | <p>Annual, 4"/4.5"/Quart/10 cm, 1 (ppp), 12-15 (weeks), Spring PGR paclobutrazol 5 ppm Spray Annual, 5"/6"/1 Gallon/15 cm, 1 (ppp), 10-12 (weeks), Summer PGR paclobutrazol 5 ppm Spray Annual, 5"/6"/1 Gallon/15 cm, 3-5 (ppp), 10-12 (weeks), Summer PGR paclobutrazol 5 ppm Spray Annual, 5"/6"/1 Gallon/15 cm, 3-5 (ppp), 12-15 (weeks), Spring PGR paclobutrazol 5 ppm Spray Overwinter, 5"/6"/1 Gallon/15 cm, 1 (ppp), 26-34 (weeks), Spring PGR paclobutrazol 5 ppm Spray Overwinter, 5"/6"/1 Gallon/15 cm, 3-5 (ppp), 26-34 (weeks), Spring PGR paclobutrazol 5 ppm Spray</p> | Prevent Mg and Fe deficiency. Avoid planting plugs too deep (crown below soil surface) and growing wet in plug and finished stages. |
| Yes-6 to 8 weeks ADT 50°F (10°C) starting at 10 true leaves | <p>Overwinter, 4"/4.5"/Quart/10 cm, 1 (ppp), 26-32 (weeks), Early Spring, ADT 60°F (16°C)</p> | Requires well-drained soil; avoid Winter wet. Avoid planting plugs too deep (crown must be equal with the media surface). |
| No | <p>Annual, 306 Pack/1801, 1 (ppp), 6-8 (weeks), Autumn PGR daminozide 1,000-2,000 ppm Spray Annual, 306 Pack/1801, 1 (ppp), 6-8 (weeks), Winter PGR daminozide 1,000-2,000 ppm Spray Overwinter, 5"/6"/1 Gallon/15 cm, 1 (ppp), 16-24 (weeks), Early Spring PGR daminozide 1,000-2,000 ppm Spray</p> | 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. |
| No | <p>Annual, 4"/4.5"/Quart/10 cm, 1 (ppp), 12-14 (weeks), Late Spring PGR chlormequat chloride 750 ppm Spray Annual, 4"/4.5"/Quart/10 cm, 1 (ppp), 12-14 (weeks), Late Spring PGR daminozide 2,000-2,500 ppm Spray Annual, 4"/4.5"/Quart/10 cm, 1 (ppp), 9-12 (weeks), Summer PGR chlormequat chloride 750 ppm Spray Annual, 4"/4.5"/Quart/10 cm, 1 (ppp), 9-12 (weeks), Summer PGR daminozide 2,000-2,500 ppm Spray Annual, 5"/6"/1 Gallon/15 cm, 3-5 (ppp), 12-14 (weeks), Late Spring PGR chlormequat chloride 750 ppm Spray Annual, 5"/6"/1 Gallon/15 cm, 3-5 (ppp), 12-14 (weeks), Late Spring PGR daminozide 2,000-2,500 ppm Spray Annual, 5"/6"/1 Gallon/15 cm, 3-5 (ppp), 9-12 (weeks), Summer PGR chlormequat chloride 750 ppm Spray Annual, 5"/6"/1 Gallon/15 cm, 3-5 (ppp), 9-12 (weeks), Summer PGR daminozide 2,000-2,500 ppm Spray</p> | 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. |

| CLASS/SERIES | HARDINESS ZONE | RECOMMENDED PLUG SIZE | GROWING ON TEMPERATURE (DAYS/NIGHTS) | TARGET MEDIA PH/EC (1:2) | DAYLENGTH |
|---|----------------|-----------------------|--|--------------------------------|--|
| COREOPSIS <i>Coreopsis grandiflora</i> Double the Sun | 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 11 hours for 100% flowering but up to 3 weeks faster flowering at ≥13 hours. |
| COREOPSIS <i>Coreopsis grandiflora</i> Early Sunrise | 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. |
| COREOPSIS <i>Coreopsis grandiflora</i> Sunfire | 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. |
| COREOPSIS <i>Coreopsis grandiflora</i> SunKiss | 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. |
| DELPHINIUM <i>Delphinium x belladonna</i> Blue Donna | 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 |
| DELPHINIUM <i>Delphinium elatum</i> Dasante Blue F. | 4-7 | 288 | (day) 65-70°F (18-21°C) (night) 55-63°F (13-17°C) | 5.8-6.2 pH 1.5-2.0 mmhos/cm | Day Neutral |
| DELPHINIUM <i>Delphinium grandiflorum</i> Diamonds Blue F. | 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 |

| VERNALIZATION REQUIRED | FINISHING PROGRAMS FOR ANNUAL AND OVERWINTER PRODUCTION | KEY TIPS |
|------------------------|---|--|
| No | <p>Annual, 4"/4.5"/Quart/10 cm, 1 (ppp), 9-10 (weeks), Summer, ADT 72°F (22°C) PGR daminozide 2,500-3,000 ppm Spray Forcing, 4"/4.5"/Quart/10 cm, 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/10 cm, 1 (ppp), 10-11 (weeks), Autumn, ADT 72°F (22°C) PGR daminozide 2,500-3,000 ppm Spray Annual, 5"/6"/1 Gallon/15 cm, 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/15 cm, 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/15 cm, 1-3 (ppp), 10-11 (weeks), Autumn, ADT 72°F (22°C) PGR daminozide 2,500-3,000 ppm Spray</p> | Apply PGRs when buds are visible |
| No | <p>Annual, 4"/4.5"/Quart/10 cm, 1 (ppp), 11-13 (weeks), Summer PGR daminozide 5,000 ppm Spray Annual, 5"/6"/1 Gallon/15 cm, 1-3 (ppp), 12-13 (weeks), Summer PGR daminozide 5,000 ppm Spray Forcing, 5"/6"/1 Gallon/15 cm, 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/15 cm, 1-3 (ppp), 11-12 (weeks), Autumn, ADT 72°F (22°C) PGR daminozide 2,500-5,000 ppm Spray</p> | Apply PGRs when buds are visible. |
| No | <p>Annual, 4"/4.5"/Quart/10 cm, 1 (ppp), 10 (weeks), Summer PGR daminozide 5,000 ppm Spray Forcing, 4"/4.5"/Quart/10 cm, 1 (ppp), 11 (weeks), Late Spring, ADT 68°F (20°C) PGR daminozide 2,500-5,000 ppm Spray Forcing, 5"/6"/1 Gallon/15 cm, 1-3 (ppp), 11-12 (weeks), Late Spring, ADT 68°F (20°C) PGR daminozide 2,500-5,000 ppm Spray Forcing, 5"/6"/1 Gallon/15 cm, 1-3 (ppp), 11-12 (weeks), Autumn, ADT 72°F (22°C) PGR daminozide 2,500-5,000 ppm Spray Annual, 5"/6"/1 Gallon/15 cm, 1-3 (ppp), 10-11 (weeks), Summer PGR daminozide 5,000 ppm Spray</p> | Apply PGRs when buds are visible. |
| No | <p>Annual, 4"/4.5"/Quart/10 cm, 1 (ppp), 9-10 (weeks), Summer, ADT 72°F (22°C) PGR daminozide 5,000 ppm Spray Forcing, 4"/4.5"/Quart/10 cm, 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/10 cm, 1 (ppp), 10-11 (weeks), Autumn, ADT 72°F (22°C) PGR daminozide 2,500-5,000 ppm Spray Annual, 5"/6"/1 Gallon/15 cm, 1-3 (ppp), 10-11 (weeks), Summer, ADT 72°F (22°C) PGR daminozide 5,000 ppm Spray Forcing, 5"/6"/1 Gallon/15 cm, 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/15 cm, 1-3 (ppp), 10-11 (weeks), Late Spring, ADT 72°F (22°C) PGR daminozide 2,500-5,000 ppm Spray</p> | Apply PGRs when buds are visible. |
| No | <p>Annual, 5"/6"/1 Gallon/15 cm, 1-3 (ppp), 10-12 (weeks), Summer PGR paclobutrazol 20 ppm Spray Annual, 5"/6"/1 Gallon/15 cm, 1-3 (ppp), 11-13 (weeks), Spring PGR paclobutrazol 20 ppm Spray</p> | See Cut Flower section for cut flower production for both field and greenhouse. Monitor for Powdery Mildew. |
| No | <p>Overwinter, 5"/6"/1 Gallon/15 cm, 1-2 (ppp), 20-24 (weeks), Early Spring, ADT 55°F (13°C) PGR paclobutrazol 20 ppm Spray Annual, 5"/6"/1 Gallon/15 cm, 1-2 (ppp), 12-16 (weeks), Spring, ADT 60°F (16°C) PGR paclobutrazol 20 ppm Spray Overwinter, 8"/2 Gallon/20 cm, 3 (ppp), 20-24 (weeks), Early Spring, ADT 55°F (13°C) PGR paclobutrazol 20 ppm Spray Annual, 8"/2 Gallon/20 cm, 3 (ppp), 12-16 (weeks), Spring, ADT 60°F (16°C) PGR paclobutrazol 20 ppm Spray</p> | Keep light levels as high as possible. No pinching needed. Do not allow plants to wilt. Ship this crop when one-third of the florets are open to reduce the risk of flower shattering during shipping. |
| No | <p>Annual, 5"/6"/1 Gallon/15 cm, 1-3 (ppp), 10-12 (weeks), Summer PGR paclobutrazol 20 ppm Spray Annual, 5"/6"/1 Gallon/15 cm, 1-3 (ppp), 12-14 (weeks), Spring PGR paclobutrazol 20 ppm Spray Annual, 8"/2 Gallon/20 cm, 3 (ppp), 10-12 (weeks), Summer PGR paclobutrazol 20 ppm Spray Annual, 8"/2 Gallon/20 cm, 3 (ppp), 12-14 (weeks), Spring PGR paclobutrazol 20 ppm Spray</p> | Avoid planting plugs too deep. Maintain good fertilization, especially at flower initiation. Monitor for Aphids, Botrytis, Powdery Mildew. |

| CLASS/SERIES | HARDINESS ZONE | RECOMMENDED PLUG SIZE | GROWING ON TEMPERATURE (DAYS/NIGHTS) | TARGET MEDIA PH/EC (1:2) | DAYLENGTH |
|--|----------------|-----------------------|--|--------------------------------|--|
| DELPHINIUM <i>Delphinium elatum</i> Guardian F₁ Series | 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 |
| DIANTHUS <i>Dianthus x barbatus interspecific</i> Rockin[™] F₁ Series | 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 |
| DIGITALIS <i>Digitalis purpurea</i> Dalmatian F₁ Series | 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. |
| ECHINACEA <i>Echinacea x hybrida</i> Artisan[™] Collection F₁ Series | 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 Grow plugs under SD (≤12 hours) until 7 mature leaves. Thereafter, 100% plants flower at ≥10 hours when grown under high daily light integral (DLI; ~15 moles/m ² /d) and at ≥12 hours under low DLI (~5 moles/m ² /d). Plants flowered ~5 weeks faster at ≥13 hours than at 10 under higher DLI and ~2 weeks faster at ≥13 hours than at 12 under low DLI. Therefore, fastest flowering at ≥13 hours. |
| ECHINACEA <i>Echinacea x hybrida</i> Cheyenne Spirit | 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 Grow plugs under SD (≤12 hours) until 7 mature leaves. Thereafter, 100% plants flower at ≥10 hours when grown under high daily light integral (DLI; ~15 moles/m ² /d) and at ≥12 hours under low DLI (~5 moles/m ² /d). Plants flowered ~5 weeks faster at ≥13 hours than at 10 under higher DLI and ~2 weeks faster at ≥13 hours than at 12 under low DLI. Therefore, fastest flowering at ≥13 hours. |

| VERNALIZATION REQUIRED | FINISHING PROGRAMS FOR ANNUAL AND OVERWINTER PRODUCTION | KEY TIPS |
|------------------------|---|---|
| No | <p>Annual, 5"/6"/1 Gallon/15 cm, 1 (ppp), 11-13 (weeks), Summer PGR paclobutrazol 20 ppm Spray Annual, 5"/6"/1 Gallon/15 cm, 1 (ppp), 12-16 (weeks), Spring PGR paclobutrazol 20 ppm Spray</p> | <p>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.</p> |
| No | <p>Annual, 4"/4.5"/Quart/10 cm, 1 (ppp), 9-10 (weeks), Spring PGR paclobutrazol 15-20 ppm Spray Annual, 5"/6"/1 Gallon/15 cm, 1-3 (ppp), 9-10 (weeks), Spring PGR paclobutrazol 15-20 ppm Spray Annual, 5"/6"/1 Gallon/15 cm, 3 (ppp), 8-9 (weeks), Autumn PGR paclobutrazol 15-20 ppm Spray Annual, 10" Pot or HB/3 Gallon/25 cm, 4 (ppp), 8-9 (weeks), Autumn PGR paclobutrazol 15-20 ppm Spray</p> | <p>3-4 applications of PGRs are needed to produce in quart or gallon containers.</p> |
| No | <p>Forcing, 5"/6"/1 Gallon/15 cm, 1-2 (ppp), 12-13 (weeks), Late Spring, ADT 68°F (20°C) PGR paclobutrazol 2-3 ppm Drench Annual, 5"/6"/1 Gallon/15 cm, 1-2 (ppp), 10-12 (weeks), Summer, ADT 68°F (20°C) PGR uniconazole 5 ppm Spray Annual, 5"/6"/1 Gallon/15 cm, 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/15 cm, 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/15 cm, 1-2 (ppp), 12-13 (weeks), Late Spring, ADT 68°F (20°C) PGR paclobutrazol 5-10 ppm Spray Forcing, 5"/6"/1 Gallon/15 cm, 1-2 (ppp), 12-13 (weeks), Late Spring, ADT 68°F (20°C) PGR uniconazole 1 ppm Drench Annual, 5"/6"/1 Gallon/15 cm, 1-2 (ppp), 10-12 (weeks), Summer, ADT 68°F (20°C) PGR paclobutrazol 5-10 ppm Spray Forcing, 5"/6"/1 Gallon/15 cm, 1-2 (ppp), 12-13 (weeks), Late Spring, ADT 68°F (20°C) PGR daminozide 2,500-3,500 ppm Spray Annual, 5"/6"/1 Gallon/15 cm, 1-2 (ppp), 10-12 (weeks), Summer, ADT 68°F (20°C) PGR paclobutrazol 2-3 ppm Drench Forcing, 8"/2 Gallon/20 cm, 3-4 (ppp), 12-13 (weeks), Late Spring, ADT 68°F (20°C) PGR uniconazole 5 ppm Spray Forcing, 8"/2 Gallon/20 cm, 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/20 cm, 3-4 (ppp), 10-12 (weeks), Summer PGR paclobutrazol 5-10 ppm Spray Annual, 8"/2 Gallon/20 cm, 3-4 (ppp), 10-12 (weeks), Summer PGR uniconazole 5 ppm Spray Annual, 8"/2 Gallon/20 cm, 3-4 (ppp), 10-12 (weeks), Summer PGR daminozide 2,500-3,000 ppm Spray Forcing, 8"/2 Gallon/20 cm, 3-4 (ppp), 12-13 (weeks), Late Spring, ADT 68°F (20°C) PGR paclobutrazol 5-10 ppm Spray</p> | <p>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.</p> |
| No | <p>Overwinter, 5"/6"/1 Gallon/15 cm, 1 (ppp), 30-34 (weeks), Late Spring, ADT 72°F (22°C) Annual, 5"/6"/1 Gallon/15 cm, 1 (ppp), 13-17 (weeks), Late Spring, ADT 72°F (22°C) Forcing, 5"/6"/1 Gallon/15 cm, 1 (ppp), 9-11 (weeks), Late Summer, ADT 72°F (22°C)</p> | <p>Multiple sprays of B-Nine 2,500 ppm/CCC 500-750 ppm are our recommendation. Multiple sprays of Bonzi 30 ppm also good and can be an optional treatment. When growing and offering all 3 varieties, PGR advice as indicated is required to grow in optimal uniformity for 3 combined colours (as Yellow Ombre is a little taller and more slender without PGRs).</p> |
| No | <p>Overwinter, 5"/6"/1 Gallon/15 cm, 1-3 (ppp), 30-34 (weeks), Late Spring, ADT 72°F (22°C) Annual, 5"/6"/1 Gallon/15 cm, 1-3 (ppp), 13-17 (weeks), Late Spring, ADT 72°F (22°C) Forcing, 5"/6"/1 Gallon/15 cm, 1-3 (ppp), 9-11 (weeks), Late Summer, ADT 72°F (22°C)</p> | |

| CLASS/SERIES | HARDINESS ZONE | RECOMMENDED PLUG SIZE | GROWING ON TEMPERATURE (DAYS/NIGHTS) | TARGET MEDIA PH/EC (1:2) | DAYLENGTH |
|---|----------------|-----------------------|--|--------------------------------|--|
| ECHINACEA <i>Echinacea purpurea</i> PowWow® Series | 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 Grow plugs under SD (≤12 hours) until 7 mature leaves. Thereafter, 100% plants flower at ≥10 hours when grown under high daily light integral (DLI; ~15 moles/m²/d) and at ≥12 hours under low DLI (~5 moles/m²/d). Plants flowered ~5 weeks faster at ≥13 hours than at 10 under higher DLI and ~2 weeks faster at ≥13 hours than at 12 under low DLI. Therefore, fastest flowering at ≥13 hours. |
| GAILLARDIA <i>Gaillardia x grandiflora</i> Mesa™ F₁ Series | 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 |
| GAURA <i>Gaura lindheimeri</i> Sparkle White | 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. |
| GYPSOPHILA <i>Gypsophila cerastioides</i> Pixie Splash | 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 |
| HEUCHERA <i>Heuchera x hybrida</i> Melting Fire | 4-8 | 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 |
| HEUCHERA <i>Heuchera micrantha</i> Palace Purple | 4-8 | 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 |
| HIBISCUS <i>Hibiscus moscheutos</i> Luna™ F₁ Series | 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. |
| IBERIS <i>Iberis sempervirens</i> Whiteout F₁ | 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 |
| LAVANDULA <i>Lavandula angustifolia</i> Avignon Early Blue | 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. |

| VERNALIZATION REQUIRED | FINISHING PROGRAMS FOR ANNUAL AND OVERWINTER PRODUCTION | KEY TIPS |
|--|--|---|
| No | <p>Overwinter, 5"/6"/1 Gallon/15 cm, 1-3 (ppp), 30-34 (weeks), Late Spring, ADT 72°F (22°C) Forcing, 5"/6"/1 Gallon/15 cm, 1-3 (ppp), 9-11 (weeks), Late Summer, ADT 72°F (22°C) Annual, 5"/6"/1 Gallon/15 cm, 1-3 (ppp), 13-17 (weeks), Late Spring, ADT 72°F (22°C)</p> | |
| No | <p>Forcing, 4"/4.5"/Quart/10 cm, 1 (ppp), 9-11 (weeks), Late Summer, ADT 72°F (22°C) Annual, 4"/4.5"/Quart/10 cm, 1 (ppp), 10-14 (weeks), Late Spring, ADT 68°F (20°C)</p> | <p>PGRs are generally not necessary if grown cooler. If necessary, apply daminozide 2,500 to 5,000 ppm spray.</p> |
| No | <p>Annual, 4"/4.5"/Quart/10 cm, 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/15 cm, 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/15 cm, 1-3 (ppp), 8-9 (weeks), Spring PGR daminozide/chlormequat chloride tank mix 2,500/750-2,500/1,000 ppm Spray</p> | <p>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.</p> |
| Yes-duration of 8 weeks; max 40°F (4°C) | <p>Overwinter, 4"/4.5"/Quart/10 cm, 1 (ppp), 26-40 (weeks), Spring</p> | <p>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.</p> |
| No-vernalization not needed when sold for foliage | <p>Forcing, 4"/4.5"/Quart/10 cm, 1 (ppp), 11-12 (weeks), Late Spring, ADT 68°F (20°C) Forcing, 4"/4.5"/Quart/10 cm, 1 (ppp), 11-12 (weeks), Autumn, ADT 68°F (20°C) Overwinter, 5"/6"/1 Gallon/15 cm, 1 (ppp), 28-36 (weeks), Spring Overwinter, 5"/6"/1 Gallon/15 cm, 1-3 (ppp), 30-36 (weeks), Spring Forcing, 5"/6"/1 Gallon/15 cm, 1-3 (ppp), 13-14 (weeks), Late Spring, ADT 68°F (20°C) Forcing, 5"/6"/1 Gallon/15 cm, 1-3 (ppp), 12-13 (weeks), Autumn, ADT 68°F (20°C)</p> | <p>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.</p> |
| No-vernalization not needed when sold for foliage | <p>Forcing, 4"/4.5"/Quart/10 cm, 1 (ppp), 10-11 (weeks), Late Spring, ADT 68°F (20°C) Forcing, 4"/4.5"/Quart/10 cm, 1 (ppp), 9-10 (weeks), Autumn, ADT 68°F (20°C) Forcing, 5"/6"/1 Gallon/15 cm, 1-2 (ppp), 10-11 (weeks), Autumn, ADT 68°F (20°C) Overwinter, 5"/6"/1 Gallon/15 cm, 1 (ppp), 26-32 (weeks), Spring Overwinter, 5"/6"/1 Gallon/15 cm, 1-3 (ppp), 28-32 (weeks), Spring Forcing, 5"/6"/1 Gallon/15 cm, 1-2 (ppp), 11-12 (weeks), Late Spring, ADT 68°F (20°C)</p> | <p>Do not plant plugs too deep. Keep plug surface at the same level as the media surface. Grow relatively dry. Needs well-drained medium.</p> |
| No-damage to plugs results below 41°F (5°C) | <p>Annual, 4"/4.5"/Quart/10 cm, 1 (ppp), 10-13 (weeks), Summer PGR daminozide/chlormequat chloride tank mix 750-2,500 ppm Spray Annual, 5"/6"/1 Gallon/15 cm, 1 (ppp), 10-13 (weeks), Summer PGR daminozide/chlormequat chloride tank mix 750-2,500 ppm Spray</p> | <p>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.</p> |
| Yes-minimum 8 to 10 weeks. Plants should be bulked for about 8 to 10 weeks before being receptive to cold treatment. | <p>Overwinter, 4"/4.5"/Quart/10 cm, 1 (ppp), 26-36 (weeks), Early Spring</p> | <p>No pinch needed. Allow enough bulk time; grow in active climate. Monitor for Downy and Powdery Mildew; spray preventively.</p> |
| No | <p>Annual, 4"/4.5"/Quart/10 cm, 1 (ppp), 9-10 (weeks), Summer, ADT 60°F (16°C) PGR daminozide 2,000-3,000 ppm Spray Annual, 4"/4.5"/Quart/10 cm, 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/15 cm, 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/15 cm, 1-3 (ppp), 10-11 (weeks), Late Spring, ADT 60°F (16°C) PGR daminozide 2,000-3,000 ppm Spray</p> | <p>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.</p> |

| CLASS/SERIES | HARDINESS ZONE | RECOMMENDED PLUG SIZE | GROWING ON TEMPERATURE (DAYS/NIGHTS) | TARGET MEDIA PH/EC (1:2) | DAYLENGTH |
|---|----------------|-----------------------|--|--------------------------------|---|
| LAVANDULA <i>Lavandula stoechas</i> Bandera Series | 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. |
| LAVANDULA <i>Lavandula angustifolia</i> Blue Spear | 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 | Facultative Long Day Critical Daylength: 11 hours in High DLI (15Mol/day/m2); 12 hours in Low DLI (5Mol/day/m2) See Lavender Scheduling Tool at panamseed.com for finishing schedules per region. |
| LAVANDULA <i>Lavandula angustifolia</i> Ellagance Series | 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 is 10 hours; Ice and Snow are Obligate Long Day with critical daylength of about 13-14 hours. See Lavender Scheduling Tool at panamseed.com for finishing schedules by region. |
| LAVANDULA <i>Lavandula angustifolia</i> Lavance Deep Purple | 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. |
| LAVANDULA <i>Lavandula multifida</i> Spanish Eyes | 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 |
| LEUCANTHEMUM <i>Leucanthemum x superbum</i> , <i>Chrysanthemum maximum</i> Madonna F. | 3-9 | 288 72 | (day) 65-72°F (18-22°C) (night) 57-60°F (14-16°C) | 5.5-6.2 pH 0.9-1.1 mmhos/cm | Obligate Long Day Plant needs a minimum of 14.5 hrs. daylength to initiate flowering. Responds very well to night interruption (4 hrs. between 10 pm and 2 am) for Spring Forcing. Juvenility ends at 10 leaves. |

| VERNALIZATION REQUIRED | FINISHING PROGRAMS FOR ANNUAL AND OVERWINTER PRODUCTION | KEY TIPS |
|------------------------|--|---|
| No | <p>Annual, 4"/4.5"/Quart/10 cm, 1 (ppp), 12-14 (weeks), Spring Overwinter, 4"/4.5"/Quart/10 cm, 1 (ppp), 24-32 (weeks), Early Spring Annual, 5"/6"/1 Gallon/15 cm, 1-3 (ppp), 12-14 (weeks), Spring</p> | <p>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.</p> |
| No | <p>Annual, 4"/4.5"/Quart/10 cm, 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/10 cm, 1 (ppp), 9-10 (weeks), Summer, ADT 65°F (18°C) PGR daminozide 2,000-3,000 ppm Spray Annual, 5"/6"/1 Gallon/15 cm, 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/15 cm, 1-3 (ppp), 10-12 (weeks), Late Spring, ADT 65°F (18°C) PGR daminozide 2,000-3,000 ppm Spray</p> | <p>Avoid planting plugs deep. Keep plug surface same as medium surface. Grow with 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.</p> |
| No | <p>Overwinter, 4"/4.5"/Quart/10 cm, 1 (ppp), 28-36 (weeks), Spring, ADT 65°F (18°C) PGR daminozide 2,000-3,000 ppm Spray Annual, 4"/4.5"/Quart/10 cm, 1 (ppp), 9-12 (weeks), Late Spring, ADT 65°F (18°C) PGR daminozide 2,000-3,000 ppm Spray Annual, 5"/6"/1 Gallon/15 cm, 1-3 (ppp), 9-12 (weeks), Late Spring, ADT 65°F (18°C) PGR daminozide 2,000-3,000 ppm Spray</p> | <p>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 is the fastest (as indicated lead time); 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.</p> |
| No | <p>Annual, 4"/4.5"/Quart/10 cm, 1 (ppp), 9-11 (weeks), Summer, ADT 65°F (18°C) PGR daminozide 2,000-3,000 ppm Spray Annual, 4"/4.5"/Quart/10 cm, 1 (ppp), 10-11 (weeks), Autumn, ADT 65°F (18°C) PGR daminozide 2,000-3,000 ppm Spray Overwinter, 4"/4.5"/Quart/10 cm, 1-3 (ppp), 30-38 (weeks), Late Spring, ADT 60°F (16°C) PGR daminozide 2,000-3,000 ppm Spray Annual, 5"/6"/1 Gallon/15 cm, 1-3 (ppp), 10-11 (weeks), Summer, ADT 65°F (18°C) PGR daminozide 2,000-3,000 ppm Spray Annual, 5"/6"/1 Gallon/15 cm, 1-3 (ppp), 10-12 (weeks), Autumn, ADT 65°F (18°C) PGR daminozide 2,000-3,000 ppm Spray Overwinter, 5"/6"/1 Gallon/15 cm, 1-3 (ppp), 30-38 (weeks), Late Spring, ADT 60°F (16°C) PGR daminozide 2,000-3,000 ppm Spray</p> | <p>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 plant 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.</p> |
| No | <p>Annual, 4"/4.5"/Quart/10 cm, 1 (ppp), 12-14 (weeks), Summer PGR daminozide 2,000-3,000 ppm Spray Annual, 8"/2 Gallon/20 cm, 3-5 (ppp), 12-15 (weeks), Summer PGR daminozide 2,000-3,000 ppm Spray</p> | <p>Grow relatively dry and provide active climate. Vigorous Lavandula needs more PGRs than L. angustifolia and L. stoechas, and is a long-flowering annual.</p> |
| No | <p>Annual, 4"/4.5"/Quart/10 cm, 1 (ppp), 11-12 (weeks), Summer, ADT 68°F (20°C) PGR paclobutrazol 20-25 ppm Spray Annual, 4"/4.5"/Quart/10 cm, 1 (ppp), 11-12 (weeks), Summer, ADT 68°F (20°C) PGR uniconazole 5 ppm Spray Annual, 4"/4.5"/Quart/10 cm, 1 (ppp), 10-11 (weeks), Summer, ADT 78°F (26°C) PGR daminozide 5,000-6,000 ppm Spray Annual, 4"/4.5"/Quart/10 cm, 1 (ppp), 11-12 (weeks), Summer, ADT 68°F (20°C) PGR daminozide 2,500-3,000 ppm Spray Annual, 4"/4.5"/Quart/10 cm, 1 (ppp), 10-11 (weeks), Summer, ADT 74°F (23°C) PGR uniconazole 5-10 ppm Spray Annual, 4"/4.5"/Quart/10 cm, 1 (ppp), 10-11 (weeks), Summer, ADT 78°F (26°C) PGR paclobutrazol 20-30 ppm Spray Annual, 4"/4.5"/Quart/10 cm, 1 (ppp), 10-11 (weeks), Summer, ADT 78°F (26°C) PGR uniconazole 10 ppm Spray Annual, 4"/4.5"/Quart/10 cm, 1 (ppp), 11-12 (weeks), Summer, ADT 68°F (20°C) Annual, 4"/4.5"/Quart/10 cm, 1 (ppp), 12-14 (weeks), Late Spring, ADT 65°F (18°C) Annual, 4"/4.5"/Quart/10 cm, 1 (ppp), 12-13 (weeks), Autumn, ADT 68°F (20°C) PGR daminozide 2,500-3,000 ppm Spray Annual, 4"/4.5"/Quart/10 cm, 1 (ppp), 12-13 (weeks), Autumn, ADT 68°F (20°C) PGR paclobutrazol 20-30 ppm Spray Annual, 5"/6"/1 Gallon/15 cm, 1-3 (ppp), 12-15 (weeks), Late Spring, ADT 65°F (18°C) Annual, 5"/6"/1 Gallon/15 cm, 1 (ppp), 11-12 (weeks), Summer, ADT 68°F (20°C)</p> | <p>For 2 Gallon, use 3-4 plugs per pot.</p> |

| CLASS/SERIES | HARDINESS ZONE | RECOMMENDED PLUG SIZE | GROWING ON TEMPERATURE (DAYS/NIGHTS) | TARGET MEDIA PH/EC (1:2) | DAYLENGTH |
|--|----------------|-----------------------|--|--------------------------------|---|
| LEUCANTHEMUM <i>Leucanthemum x superbum</i> White Lion F₁ | 3-9 | 288 72 | (day) 65-72°F (18-22°C) (night) 57-60°F (14-16°C) | 5.5-6.2 pH 0.9-1.1 mmhos/cm | Facultative Long Day Facultative Long Day Plant but very low sensitivity to daylength, with critical daylength at 10 hours. |
| LOBELIA <i>Lobelia x speciosa</i> Starship™ F₁ Series | 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. See Perennials Forcing Guide for more info on scheduling and plug size and treatments. Forcing for Summer and Autumn sales target Weeks 35 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. |
| MYOSOTIS <i>Myosotis sylvatica</i> Mon Amie Series | 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 |
| PAPAVER <i>Papaver nudicaule</i> Champagne Bubbles F₁ Series | 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 |
| PENSTEMON <i>Penstemon heterophyllus</i> Electric Blue | 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. |
| PEROVSKIA <i>Perovskia atriplicifolia</i> Blue Steel | 4-9 | 288 128* | (day) 65-68°F (18-20°C) (night) 57-60°F (14-16°C) | 5.8-6.2 pH 1.2-1.4 mmhos/cm | Day Neutral Light accumulator - higher light levels increase development and finish. |

| VERNALIZATION REQUIRED | FINISHING PROGRAMS FOR ANNUAL AND OVERWINTER PRODUCTION | KEY TIPS |
|--|--|---|
| No | <p>Overwinter, 4"/4.5"/Quart/10 cm, 1 (ppp), 18-19 (weeks), Early Spring, ADT 65°F (18°C) Annual, 4"/4.5"/Quart/10 cm, 1 (ppp), 9-10 (weeks), Spring, ADT 68°F (20°C) PGR daminozide 2,500 ppm Spray Overwinter, 5"/6"/1 Gallon/15 cm, 1-3 (ppp), 18-19 (weeks), Early Spring, ADT 65°F (18°C) Annual, 5"/6"/1 Gallon/15 cm, 1-3 (ppp), 10-11 (weeks), Spring, ADT 68°F (20°C) PGR daminozide 2,500 ppm Spray</p> | For 2 Gallon, use 3-4 plugs per pot. |
| No | <p>Annual, 4"/4.5"/Quart/10 cm, 1 (ppp), 13-17 (weeks), Summer PGR paclobutrazol 30 ppm Spray Annual, 4"/4.5"/Quart/10 cm, 1 (ppp), 13-17 (weeks), Summer PGR uniconazole 5 ppm Spray Annual, 5"/6"/1 Gallon/15 cm, 2-3 (ppp), 13-17 (weeks), Summer PGR paclobutrazol 30 ppm Spray Annual, 5"/6"/1 Gallon/15 cm, 2-3 (ppp), 13-17 (weeks), Summer PGR uniconazole 5 ppm Spray Forcing, 5"/6"/1 Gallon/15 cm, 2-3 (ppp), 11-13 (weeks), Spring, ADT 68°F (20°C) Forcing, 5"/6"/1 Gallon/15 cm, 2-3 (ppp), 9-10 (weeks), Autumn, ADT 68°F (20°C) Forcing, 8"/2 Gallon/20 cm, 4-6 (ppp), 9-10 (weeks), Autumn, ADT 68°F (20°C) Forcing, 8"/2 Gallon/20 cm, 4-6 (ppp), 11-13 (weeks), Spring, ADT 68°F (20°C)</p> | 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. |
| No | <p>Overwinter, 4"/4.5"/Quart/10 cm, 1 (ppp), 16-22 (weeks), Early Spring PGR daminozide/chlormequat chloride tank mix 3,500-750 ppm Spray Annual, 4"/4.5"/Quart/10 cm, 1 (ppp), 7-9 (weeks), Spring PGR daminozide/chlormequat chloride tank mix 3,500-750 ppm Spray</p> | 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. |
| No | <p>Annual, 4"/4.5"/Quart/10 cm, 1 (ppp), 5-10 (weeks), Late Spring Annual, 5"/6"/1 Gallon/15 cm, 2-3 (ppp), 6-11 (weeks), Late Spring</p> | Suffers from chlorosis at high pH (above 6.1), due to iron deficiency. Moderate fertilization, well-drained soil. |
| No-but beneficial; cooled plants flower more uniformly and faster than non-cooled plants; duration of 10 weeks at 41°F (5°C) | <p>Annual, 4"/4.5"/Quart/10 cm, 1 (ppp), 11-13 (weeks), Summer Annual, 4"/4.5"/Quart/10 cm, 1 (ppp), 12-14 (weeks), Late Spring Annual, 5"/6"/1 Gallon/15 cm, 2-3 (ppp), 11-13 (weeks), Summer Annual, 5"/6"/1 Gallon/15 cm, 2-3 (ppp), 12-14 (weeks), Late Spring</p> | Bulking prior to vernalization ensures pot-fill and improves flowering uniformity. Monitor for Whiteflies. |
| No | <p>Annual, 4"/4.5"/Quart/10 cm, 1 (ppp), 12-14 (weeks), Summer, ADT 68°F (20°C) PGR daminozide 2,500-3,000 ppm Spray Annual, 4"/4.5"/Quart/10 cm, 1 (ppp), 14-16 (weeks), Late Spring, ADT 68°F (20°C) PGR daminozide 2,500-3,000 ppm Spray Annual, 4"/4.5"/Quart/10 cm, 1 (ppp), 12-14 (weeks), Autumn, ADT 68°F (20°C) PGR daminozide 2,500-3,000 ppm Spray Annual, 5"/6"/1 Gallon/15 cm, 1-3 (ppp), 12-14 (weeks), Autumn, ADT 68°F (20°C) PGR daminozide 2,500-3,000 ppm Spray Annual, 5"/6"/1 Gallon/15 cm, 1-3 (ppp), 14-16 (weeks), Late Spring, ADT 68°F (20°C) PGR daminozide 2,500-3,000 ppm Spray Annual, 5"/6"/1 Gallon/15 cm, 1-3 (ppp), 12-14 (weeks), Summer, ADT 68°F (20°C) PGR daminozide 2,500-3,000 ppm Spray Annual, 8"/2 Gallon/20 cm, 3-5 (ppp), 13-15 (weeks), Autumn, ADT 68°F (20°C) PGR daminozide 3,000-5,000 ppm Spray Annual, 8"/2 Gallon/20 cm, 3-5 (ppp), 13-15 (weeks), Summer, ADT 68°F (20°C) PGR daminozide 3,000-5,000 ppm Spray Annual, 8"/2 Gallon/20 cm, 3-5 (ppp), 14-16 (weeks), Late Spring, ADT 68°F (20°C) PGR daminozide 2,500-3,000 ppm Spray</p> | Needs an active growing climate with the highest possible light levels. Optimum is more than 15 Mol per m ² 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, which will cause a 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 the main size; recommend 3 ppp, planted in a triangle, for superior finished quality (compared to vegetative with 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 of 5,000 ppm for 1 to 2 applications in the first 2 to 3 weeks after transplant. |

| CLASS/SERIES | HARDINESS ZONE | RECOMMENDED PLUG SIZE | GROWING ON TEMPERATURE (DAYS/NIGHTS) | TARGET MEDIA PH/EC (1:2) | DAYLENGTH |
|--|----------------|-----------------------|--|--------------------------------|--|
| PEROVSKIA <i>Perovskia atriplicifolia</i> Bluesette | 4-9 | 288 72* | (day) 65-68°F (18-20°C) (night) 57-60°F (14-16°C) | 5.8-6.2 pH 1.2-1.4 mmhos/cm | Facultative Long Day Light accumulator – higher light levels increase development and finish. |
| RUDBECKIA <i>Rudbeckia fulgida var. sullivantii</i> Goldblitz | 3-9 | 288 72 | (day) 65-68°F (18-20°C) (night) 60-65°F (16-18°C) | | Obligate Long Day Critical daylength of 14.5 hours. |
| RUDBECKIA <i>Rudbeckia fulgida var. sullivantii</i> Goldsturm | 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 (15 hours or longer). For forcing info: see Perennials Forcing Guide. |
| SALVIA <i>Salvia nemorosa</i> New Dimension™ Series | 3-8 | 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. |

| VERNALIZATION REQUIRED | FINISHING PROGRAMS FOR ANNUAL AND OVERWINTER PRODUCTION | KEY TIPS |
|------------------------|--|---|
| No | <p>Annual, 4"/4.5"/Quart/10 cm, 1 (ppp), 12-14 (weeks), Late Spring, ADT 65°F (18°C) Annual, 4"/4.5"/Quart/10 cm, 1 (ppp), 10-12 (weeks), Summer, ADT 68°F (20°C) Annual, 5"/6"/1 Gallon/15 cm, 1 (ppp), 12-14 (weeks), Late Spring, ADT 65°F (18°C) Annual, 5"/6"/1 Gallon/15 cm, 1 (ppp), 10-12 (weeks), Summer, ADT 68°F (20°C)</p> | <p>Needs an active growing climate with the highest possible light levels. Optimum is more than 15 mol per m² per day. Can grow in lower light levels, but that will increase crop time. Do not start too early in cold nights and lower light levels, which will cause delay. Allow media to dry between watering; avoid growing wet. Monitor EC in pot during active growth to avoid leaf yellowing. One gallon is the perfect size; use 1 multi-seed plug (3 to 4 seeds), and no pinch or PGRs needed. For quarts, use a smaller plug size (288) and 1 seed/cell; pinching is optional (leave 3 to 4 leaf nodes), same for PGR spray (1,500 ppm B-Nine-daminozide). Pinching will delay 1 to 2 weeks.</p> |
| No | <p>Annual, 4"/4.5"/Quart/10 cm, 1 (ppp), 14-22 (weeks), Summer, ADT 65°F (18°C) PGR daminozide 5,000 ppm Spray Annual, 5"/6"/1 Gallon/15 cm, 1 (ppp), 14-23 (weeks), Summer, ADT 65°F (18°C) PGR daminozide 5,000 ppm Spray</p> | <p>Will finish reliably as a first-year-flowering perennial if not sown later than Week 16. No need for short day treatment of plugs (like Goldsturm does). For PGRs, use B-Nine 3x 5,000 ppm spray as an option for more controlled growth. B-Nine/CCC tank mix (3x B-Nine 2,500 ppm/CCC 750 ppm spray) could be an optional treatment. Using Sumagic or Bonzi spray is not recommended, as they made the foliage smaller and the plants looked spindly. This is a relatively high feeder, so prevent Mg, Ca and Fe deficiencies. High light and good ventilation are beneficial. Possible foliage issues can occur on new growth leaves (puckering, cup up, tip marginal burning) during flower induction period because of more difficult mineral transport during this developmental stage. There is no good fertilisation correction possible, only maintain as low an RH as possible with optimal ventilation to have optimal plant transport of elements. The foliage issue will mostly have disappeared at flowering sales stage. For Spring and Autumn forcing: See Perennial Forcing Guide.</p> |
| No | <p>Annual, 4"/4.5"/Quart/10 cm, 1 (ppp), 16-23 (weeks), Summer PGR paclobutrazol 20-30 ppm Spray Annual, 4"/4.5"/Quart/10 cm, 1 (ppp), 16-23 (weeks), Summer PGR uniconazole 5-10 ppm Spray Annual, 5"/6"/1 Gallon/15 cm, 2-3 (ppp), 16-24 (weeks), Summer PGR paclobutrazol 20-30 ppm Spray Annual, 5"/6"/1 Gallon/15 cm, 2-3 (ppp), 16-24 (weeks), Summer PGR uniconazole 5-10 ppm Spray Overwinter, 5"/6"/1 Gallon/15 cm, 1 (ppp), 32-34 (weeks), Summer PGR uniconazole 5-10 ppm Spray Overwinter, 8"/2 Gallon/20 cm, 3-5 (ppp), 32-34 (weeks), Summer PGR paclobutrazol 20-30 ppm Spray</p> | <p>Relatively high feeder. Use long day (15 hours or longer) or night interruption to finish early pottings or use vernalised plugs. Prevent Mg and Fe deficiency. Monitor for Botrytis and downy mildew. High light and good ventilation are beneficial. PGR advice as follows: best effect with Sumagic 2x 15 ppm spray; another PGR option is a tank mix of B-Nine 2,500 ppm/CCC 750 ppm 3x spray. Possible foliage issues can occur on new growth leaves (puckering, cup up, tip marginal burning) during flower induction period because of more difficult mineral transport during this developmental stage. There is no good fertilisation correction possible, only maintain as low an RH as possible with optimal ventilation to have optimal plant transport of elements. The foliage issue will mostly have disappeared at flowering sales stage. For Autumn forcing info: See Perennials Forcing Guide.</p> |
| No | <p>Annual, 4"/4.5"/Quart/10 cm, 1 (ppp), 7-9 (weeks), Summer PGR daminozide 1,500-2,000 ppm Spray Annual, 4"/4.5"/Quart/10 cm, 1 (ppp), 8-11 (weeks), Late Spring PGR daminozide 1,500-2,000 ppm Spray Overwinter, 5"/6"/1 Gallon/15 cm, 1 (ppp), 24-28 (weeks), Spring PGR daminozide 1,500-2,000 ppm Spray Annual, 5"/6"/1 Gallon/15 cm, 3-4 (ppp), 7-9 (weeks), Summer PGR daminozide 1,500-2,000 ppm Spray Annual, 5"/6"/1 Gallon/15 cm, 3-4 (ppp), 8-11 (weeks), Late Spring PGR daminozide 1,500-2,000 ppm Spray Overwinter, 8"/2 Gallon/20 cm, 3-5 (ppp), 24-28 (weeks), Spring PGR daminozide 1,500-2,000 ppm Spray</p> | <p>Grow relatively dry. Avoid leaf yellowing caused by high pH (Fe) and/or low N when generative. Spray weekly with Bittersalt MGSO4 1g/liter. Monitor for Spider Mites, Rhizoctonia, Leafspot and Root Rot. Wet after transplant with preventive spray.</p> |

| CLASS/SERIES | HARDINESS ZONE | RECOMMENDED PLUG SIZE | GROWING ON TEMPERATURE (DAYS/NIGHTS) | TARGET MEDIA PH/EC (1:2) | DAYLENGTH |
|--|----------------|-----------------------|--|--------------------------------|--|
| SALVIA <i>Salvia nemorosa</i> Salvatore Blue | 4-8 | 288 128 | (day) 60-72°F (16-22°C) (night) 50-59°F (10-15°C) | 5.5-6.2 pH 1.1-1.4 mmhos/cm | Facultative Long Day Salvatore Blue is a facultative long day plant, but it is much less daylength sensitivity than <i>Salvia New Dimension</i> , and is able to flower under 10-hour short day conditions. Because of the 10-hr. critical daylength, Salvatore Blue can be grown for annual programs, but also for long-cycle production through the Winter for Spring sales. Salvatore can finish in the southern U.S. for April sales if critical daylength at transplant is a minimum of 10 hrs., comparative to vegetative choices for early Spring. |
| SALVIA <i>Salvia patens</i> Patio Series | 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. |
| SCABIOSA <i>Scabiosa columbaria</i> Blue Note | 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 |
| SCABIOSA <i>Scabiosa japonica var. alpina</i> Pink Diamonds | 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 |
| SILENE <i>Silene alpestris</i> Starry Dreams | 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. |
| VERBASCUM <i>Verbascum x hybrida</i> Southern Charm | 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 |
| VERBENA <i>Verbena bonariensis</i> Buenos Aires | 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. |
| VERBENA <i>Verbena rigida</i> Santos Purple | 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. |

| VERNALIZATION REQUIRED | FINISHING PROGRAMS FOR ANNUAL AND OVERWINTER PRODUCTION | KEY TIPS |
|------------------------|---|---|
| No | <p>Annual, 4"/4.5"/Quart/10 cm, 1 (ppp), 7-8 (weeks), Summer, ADT 62°F (17°C) PGR daminozide 1,500-2,000 ppm Spray Annual, 4"/4.5"/Quart/10 cm, 1 (ppp), 8-10 (weeks), Spring PGR daminozide 1,500-2,000 ppm Spray Overwinter, 4"/4.5"/Quart/10 cm, 1 (ppp), 14-18 (weeks), Early Spring, ADT 62°F (17°C) PGR daminozide 1,500-2,000 ppm Spray Overwinter, 5"/6"/1 Gallon/15 cm, 1-3 (ppp), 14-18 (weeks), Early Spring, ADT 62°F (17°C) PGR daminozide 1,500-2,000 ppm Spray Annual, 5"/6"/1 Gallon/15 cm, 1-3 (ppp), 7-8 (weeks), Summer, ADT 62°F (17°C) PGR daminozide 1,500-2,000 ppm Spray Annual, 5"/6"/1 Gallon/15 cm, 1-3 (ppp), 8-10 (weeks), Spring PGR daminozide 1,500-2,000 ppm Spray</p> | <p>Salvatore Blue needs a little higher fertilization level than New Dimension Blue, per the Target Media EC. With <i>Salvia nemorosa</i>, leaf yellowing can occur, especially once turning generative. Keep up fertilization and use iron leaf fertilization, avoiding too high of a pH. Grow relatively dry and provide an active climate. Salvatore Blue can show black spots on the leaves; this is not disease, nor does it indicate damage. Due to the dark color of Salvatore Blue, these spots are accumulations of the color compound that will be dissimilated in better growing conditions.</p> |
| No | <p>Annual, 4"/4.5"/Quart/10 cm, 1 (ppp), 7-11 (weeks), Late Spring PGR daminozide 1,500-2,000 ppm Spray Annual, 5"/6"/1 Gallon/15 cm, 3-4 (ppp), 7-11 (weeks), Late Spring PGR daminozide 1,500-2,000 ppm Spray</p> | <p>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.</p> |
| No | <p>Annual, 4"/4.5"/Quart/10 cm, 1 (ppp), 12-14 (weeks), Late Spring Overwinter, 4"/4.5"/Quart/10 cm, 1 (ppp), 26-34 (weeks), Spring Annual, 5"/6"/1 Gallon/15 cm, 3-4 (ppp), 12-14 (weeks), Late Spring</p> | <p>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.</p> |
| No | <p>Annual, 4"/4.5"/Quart/10 cm, 1 (ppp), 12-14 (weeks), Late Spring Overwinter, 4"/4.5"/Quart/10 cm, 1 (ppp), 26-34 (weeks), Spring Annual, 5"/6"/1 Gallon/15 cm, 3-4 (ppp), 12-14 (weeks), Late Spring</p> | <p>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.</p> |
| No | <p>Annual, 4"/4.5"/Quart/10 cm, 1 (ppp), 10-14 (weeks), Late Spring PGR daminozide 2,000-2,500 ppm Spray Annual, 5"/6"/1 Gallon/15 cm, 3-4 (ppp), 10-14 (weeks), Late Spring PGR daminozide 2,000-2,500 ppm Spray</p> | <p>Low to moderate fertilization. Grow uniformly moist. Prevent Mg and Fe deficiency. Monitor for Aphids, Spider Mites, Slugs and Snails.</p> |
| No | <p>Annual, 5"/6"/1 Gallon/15 cm, 1 (ppp), 12-14 (weeks), Summer</p> | <p>Flowering more uniform under high light conditions.</p> |
| No | <p>Annual, 4"/4.5"/Quart/10 cm, 1 (ppp), 11-13 (weeks), Late Spring Annual, 5"/6"/1 Gallon/15 cm, 1-3 (ppp), 10-11 (weeks), Autumn, ADT 68°F (20°C) PGR daminozide 2,500-5,000 ppm Spray</p> | <p>Primarily sold green. Grow dry and light. Relatively high fertilization. Avoid high N. Prevent Mg and Fe deficiency.</p> |
| No | <p>Annual, 4"/4.5"/Quart/10 cm, 1 (ppp), 11-14 (weeks), Late Spring PGR daminozide/chlormequat chloride tank mix 2,000-2,500 ppm Spray Annual, 4"/4.5"/Quart/10 cm, 1 (ppp), 11-14 (weeks), Late Spring PGR daminozide 2,000-2,500 ppm Spray Annual, 5"/6"/1 Gallon/15 cm, 3-4 (ppp), 10-13 (weeks), Summer PGR daminozide/chlormequat chloride tank mix 2,000-750 ppm Spray Annual, 5"/6"/1 Gallon/15 cm, 3-4 (ppp), 10-13 (weeks), Summer PGR daminozide 2,000-2,500 ppm Spray Annual, 5"/6"/1 Gallon/15 cm, 3-4 (ppp), 11-14 (weeks), Late Spring PGR daminozide/chlormequat chloride tank mix 2,000-750 ppm Spray Annual, 5"/6"/1 Gallon/15 cm, 3-4 (ppp), 11-14 (weeks), Late Spring PGR daminozide 2,000-2,500 ppm Spray</p> | <p>Grow dry and light. Relatively high fertilization. Avoid high N. Prevent Mg and Fe deficiency.</p> |

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) | | | | |
|--------------|-------------------------------|-------------------------------------|---------------------|------------------------------|------------|--|---|--|
| | | | | IDEAL SOWING WEEK | PLUG SIZE* | PLUG BULKED UNDER NATURAL SD OR <=12 HR GROW WEEKS | SUPPLEMENTAL LD (14 HR OR NI) REQUIRED AFTER TRANSPLANT** | |
| ARMERIA | <i>pseudarmeria</i> | Ballerina | 7-9 | 49 | 288 | 7 | No | |
| CAMPANULA | <i>carpatica</i> | Rapido | 3-9 | 48-49 | 288 | 10 | Yes | |
| COREOPSIS | <i>grandiflora</i> | Double the Sun | 4-9 | 51-52 | 128 | 8 | Yes | |
| COREOPSIS | <i>grandiflora</i> | Early Sunrise | 4-9 | 49-50 | 128 | 8 | Yes | |
| COREOPSIS | <i>grandiflora</i> | Sunfire | 4-9 | 51-52 | 128 | 8 | Yes | |
| COREOPSIS | <i>grandiflora</i> | SunKiss | 4-9 | 51-52 | 128 | 8 | Yes | |
| DELPHINIUM | <i>elatum</i> | Dasante Blue | 4-7 | 51-52 | 288 | 6-7 | No | |
| DELPHINIUM | <i>elatum</i> | Guardian | 4-7 | 51-52 | 288 | 6-7 | No | |
| DELPHINIUM | <i>belladonna</i> | Blue Donna | 5-9 | 51-52 | 288 | 6-8 | No | |
| DELPHINIUM | <i>grandiflorum</i> | Diamonds Blue | 4-9 | 51-52 | 288 | 7 | No | |
| DIANTHUS | <i>barbatus interspecific</i> | Rockin' | 5-8 | 1-2 | 288 | 5 | No | |
| DIGITALIS | <i>purpurea</i> | Dalmatian | 5-9 | 52-1 | 128 | 7 | Yes | |
| ECHINACEA | <i>hybrida</i> | Artisan | 4-10 | 45-46 | 128+ | 13-15 weeks; SD from 2 to 7 true leaves | Yes | |
| ECHINACEA | <i>hybrida</i> | Cheyenne Spirit | 4-10 | 45-46 | 128+ | 13-15 weeks; SD from 2 to 7 true leaves | Yes | |
| ECHINACEA | <i>purpurea</i> | PowWow | 4-10 | 45-46 | 128+ | 13-15 weeks; SD from 2 to 7 true leaves | Yes | |
| GAILLARDIA | <i>grandiflora</i> | Mesa Bright Bicolor | 5-10 | 52-1 | 128 | 7 | Yes | |
| GAILLARDIA | <i>grandiflora</i> | Mesa Yellow | 5-10 | 52-1 | 128 | 7 | Yes | |
| GAILLARDIA | <i>grandiflora</i> | Mesa Peach | 5-10 | 52-1 | 128 | 7 | Yes | |
| GAILLARDIA | <i>grandiflora</i> | Mesa Red | 5-10 | 52-1 | 128 | 7 | Yes | |
| GAURA | <i>lindheimeri</i> | Sparkle White | 5b-9 | 2-3 | 128 | 8 | Yes | |
| HEUCHERA | <i>micrantha</i> | Palace Purple | 4-8 | 47-48 | 288 | 10-11 | No | |
| HEUCHERA | <i>hybrida</i> | Melting Fire | 4-8 | 46-47 | 288 | 10-11 | No | |
| HIBISCUS | <i>moscheutos</i> | Luna | 5-9 | - | - | - | - | |
| LAVANDULA | <i>angustifolia</i> | Avignon Early Blue | 6-8 | 46-47 | 288 | 7 | No | |
| LAVANDULA | <i>angustifolia</i> | Blue Spear | 6-8 | - | - | - | - | |
| LAVANDULA | <i>angustifolia</i> | Ellagance Purple | 5b-8a | 46-47 | 288 | 7 | No | |
| LAVANDULA | <i>angustifolia</i> | Lavance Deep Purple | 5-8 | - | - | - | - | |
| LAVANDULA | <i>stoechas</i> | Bandera | 7-10 | 46-47 | 288 | 7 | No | |
| LEUCANTHEMUM | <i>x superbum</i> | Madonna | 3b-9a | - | - | - | - | |
| LEUCANTHEMUM | <i>x superbum</i> | White Lion | 3b-9a | 47-48 | 288 | 6 | No | |
| LOBELIA | <i>speciosa</i> | Starship | 6-10 | 45-46 | 288 to 72+ | 13-15 weeks; 10-hour SD bulk to 10 leaves | Yes | |
| LOBELIA | <i>speciosa</i> | Starship Scarlet Bronze Leaf | 6-10 | 44-45 | 288 to 72+ | 14-16 weeks; 10-hour SD bulk to 10 leaves | Yes | |
| ORIGANUM | <i>hybrida</i> | Kirigami | 5b-8a | 52-1 | 128 | 6-7 | Yes | |
| PEROVSKIA | <i>atriplicifolia</i> | Bluesette | 4-9 | 50-51 | 288+ | 6-8 | No (if DLI > 10 mol/day) | |
| PEROVSKIA | <i>atriplicifolia</i> | Blue Steel | 4-9 | 48-49 | 128 | 6-8 | No | |
| RUDBECKIA | <i>fulgida</i> | GoldBlitz | 3-9 | 40-42 | 288 to 50+ | 15-16 weeks; SD from 2 to 10 true leaves | Yes | |
| RUDBECKIA | <i>fulgida</i> | Goldsturm | 3-9 | 40-42 | 288 to 50+ | 15-16 weeks; SD from 2 to 10 true leaves | Yes | |
| SALVIA | <i>nemorosa</i> | New Dimension | 4-8 | 1-2 | 128 | 7 | Yes | |
| SALVIA | <i>nemorosa</i> | Salvatore Blue | 4-8 | 1-2 | 128 | 7 | No | |
| SALVIA | <i>patens</i> | Patio | 8-10 | 1-2 | 128 | 7 | Yes | |
| SCABIOSA | <i>columbaria</i> | Blue Note | 5-7 | 49-51 | 128 | 8-9 | No | |
| SCABIOSA | <i>japonica</i> | Pink Diamonds | 5-7 | 49-51 | 128 | 8-9 | No | |
| VERBENA | <i>bonariensis</i> | Buenos Aires | 7-9 | - | - | - | - | |
| VERBENA | <i>rigida</i> | Santos Purple | 7-11 | 49-50 | 128 | 8 | No | |

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

| | | FORCING FOR FALL (WEEK 36) | | | | | | PLUGS PER POT | | | |
|--|--|----------------------------|------------|--------------------------|---|--|------|---------------|-------|--------------|--|
| 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) | |
| 15 | 60/16 | - | - | - | - | - | 1 | 3 | - | - | |
| 12-13 | 65/18 | - | - | - | - | - | 1 | 3-5 | - | - | |
| 11-12 | 68/20 | 22 | 128 | No | 6-7 | 7 | 1 | 1-3 | 3-5 | 4-6 | |
| 12-13 | 68/20 | - | - | - | - | - | 1 | 1-3 | 3-5 | - | |
| 10-12 | 68/20 | 22 | 128 | No | 6-7 | 7 | 1 | 1-3 | 3-5 | 4-6 | |
| 10-11 | 68/20 | 22 | 128 | No | 6-7 | 7 | 1 | 1-3 | 3-5 | 4-6 | |
| 14 | 65/18 | - | - | - | - | - | 1 | 1 | 3 | - | |
| 14 | 65/18 | - | - | - | - | - | 1 | 1 | 3 | - | |
| 13 | 65/18 | - | - | - | - | - | 1 | 1 | 3 | - | |
| 14 | 65/18 | - | - | - | - | - | 1 | 1-3 | 3 | - | |
| 13 | 60/16 | 22 | 288 | No | 5 | 8 | 1 | 3 | 3 | 4 | |
| 12-13 | 60/16 | - | - | - | - | - | - | 1 | 2-3 | - | |
| 12 | 68/20 | 14-16 | 128+ | Yes | 11 weeks; SD from 2 to 7 true leaves | 8-9 | 1 | 1 | 3 | 4 | |
| 12 | 68/20 | 14-16 | 128+ | Yes | 11 weeks; SD from 2 to 7 true leaves | 8-9 | 1 | 1 | 3 | 4 | |
| 12 | 68/20 | 14-16 | 128+ | Yes | 11 weeks; SD from 2 to 7 true leaves | 8-9 | 1 | 1 | 3 | 4 | |
| 12 | 68/20 | 21 | 288 | No | 5 | 8-9 | 1 | 1 | 2 | 3 | |
| 12 | 68/20 | 19 | 288 | No | 5 | 10-11 | 1 | 1 | 2 | 3 | |
| 12 | 68/20 | - | - | - | - | - | 1 | 1 | 2 | 3 | |
| 12 | 68/20 | 21 | 288 | No | 5 | 8-9 | 1 | 1 | 2 | 3 | |
| 8 | 68/20 | 22 | 288 | No | 4 | 7-8 | 1 | 1 | 3 | 4 | |
| 11-12 | 60/16 | 15-16 | 128 | No | 8 | 10-11 | 1 | 3 | 4 | 5 | |
| 13-14 | 60/16 | 12-14 | 128 | No | 9-11 | 12-13 | 1 | 3 | 4 | 5 | |
| - | - | 21 | 128 | No | 4 | 9-10 | 1 | 1 | 1 | 1 | |
| 12-14 | 55/10 | 20 | 128 | No | 6 | 9-10 | 1 | 3 | 4 | 5 | |
| - | - | 18 | 128 | No | 6 | 11-12 | 1 | 3 | 4 | 5 | |
| 12-14 | 60/16-Needs high light in South regions | - | - | - | - | - | 1 | 3 | - | - | |
| - | - | 20 | 128 | No | 6 | 8-9 | 1 | 3 | 4 | 5 | |
| 12-14 | 60/16 | - | - | - | - | - | 1 | 2 | - | - | |
| - | - | 19-20 | 288 | No | 5 | 10-11 | 1 | 1 | 3 | 4 | |
| 17-18 | 66-68 | - | - | - | - | - | 1 | 1 | 3-4 | 5 | |
| 11-12 | 68/20 | 14-16 | 288 | Yes | 9-10 weeks; 10-hour SD to 6 true leaves | 10-11 | 1 | 1 | 3 | 4 | |
| 12-13 | 68/20 | 13-15 | 288 | Yes | 9-10 weeks; 10-hour SD to 6 true leaves | 11-12 | 1 | 1 | 3 | 4 | |
| 11-13 | 68/20 | 19-20 | 128 | No | 5 | 10-11 | 1 | 1 | 3 | - | |
| 12-13 | 68 | 19-20 | 180 to 128 | No | 6-7 | 10-11 | 1 | 1-3 | 3-4 | 5 | |
| 10-14 | 65/18-Needs low RH and high light in South regions | 18-19 | 128 | No | 6-7 | 11-12 | 1 | 3 | 4 | 5 | |
| 14-15 | 68 | 11-12 | 288 to 128 | No | 5-6 | 17-18 | - | 1 | 1 | 3 | |
| 14-15 | 68/20 | 8-9 | 288 to 50+ | Yes | 14 weeks; SD from 2 to 10 true leaves | 12-13 | - | 1 | 1 | 3 | |
| 10-11 | 65/18 | 24-25 | 288 | No | 4 | 7-8 | 1 | 3 | 5 | - | |
| 10-11 | 65/18 | 24-25 | 288 | No | 4 | 7-8 | 1 | 3 | 5 | - | |
| 10-11 | 65/18 | - | - | - | - | - | 1 | 3 | 5 | - | |
| 12-14 | 60/16 | - | - | - | - | - | 1 | 3 | - | - | |
| 12-14 | 60/16 | - | - | - | - | - | 1 | 3 | - | - | |
| - | - | 18-19 | 128 | No | 8 | 10-11 | - | 1 | 2 | 3 | |
| 13-14 | 65/18-Needs high light in South regions | 19-20 | 128 | No | 8 | 9-11 | 1 | 1 | 2 | 3 | |

* 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.

POTTED PLANTS



| | |
|-------------------------------|--|
| WAVE | PHOTOPERIODIC LIGHTING CHART P. 4 |
| ANNUALS | PROPAGATION GUIDE P. 8 / FINISHING GUIDE P. 46 |
| PERENNIALS | PROPAGATION GUIDE P. 80 / FINISHING GUIDE P. 92 / FORCING GUIDE P. 108 |
| CUT FLOWERS | PROPAGATION GUIDE P. 124 / FINISHING GUIDE P. 132 |
| VEGETABLES & HERBS | |
| HANDPICKED | PROPAGATION GUIDE P. 142 / FINISHING GUIDE P. 156 |
| KITCHEN MINIS | PROPAGATION GUIDE P. 168 / FINISHING GUIDE P. 172 |



| CLASS/SERIES | SEED FORM | RECOMMENDED PLUG SIZE | PLUG CROP WEEKS | SEEDS/ CELL | COVER SEED | DAYS FROM 50% TO MAXIMUM GERMINATION | INITIAL MEDIA PH/EC (1:2) | STAGE 1 |
|---|-----------|-----------------------|-----------------|-------------|-------------|--------------------------------------|---------------------------------|---|
| CAMPANULA <i>Campanula medium</i> Campanella™ F₁ Series | PEL | 288 | 6-7 | 1 | No | 5-10 | 5.8-6.2 pH 0.7-1.0 mmhos/cm | (m) Level 4-5 (t) 68-77°F (20-25°C) (f) Less than 100 ppm N (Less than 0.7 EC) |
| CELOSIA <i>Celosia cristata</i> Concertina™ Series | 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 (f) Less than 100 ppm N (Less than 0.7 EC) |
| CELOSIA <i>Celosia spicata</i> Kosmo Series | COT | 288 | 3-4 | 1 | Light cover | 2-4 | 5.5-6.2 pH 0.7-1.2 mmhos/cm | (m) Level 4 (t) 77°F (25°C) (l) Light |
| EXACUM <i>Exacum affine</i> Princess Series | 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) |
| EXACUM <i>Exacum affine</i> Royal Dane Series | 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) |
| GERBERA <i>Gerbera jamesonii</i> ColorBloom™ F₁ Series | 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) |
| GERBERA <i>Gerbera jamesonii</i> Mega Revolution™ F₁ Series | 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) |
| GERBERA <i>Gerbera jamesonii</i> Revolution™ F₁ Series | 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) |
| HYPOESTES <i>Hypoestes phyllostachya</i> Splash Select™ Series | 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 |
| LISIANTHUS <i>Eustoma grandiflorum</i> Sapphire F₁ Series | 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 |

| STAGE 2 | STAGE 3 | STAGE 4 | KEY TIPS |
|--|--|--|---|
| (m) Level 3-4 (t) 65-75°F (18-24°C) (f) 100 to 175 ppm N (0.7 to 1.2 EC) | (m) Level 3-4 (t) 65-68°F (18-20°C) (f) 100 to 175 ppm N (0.7 to 1.2 EC) | (m) Level 3 (t) 60-64°F (16-18°C) (f) 100 to 175 ppm N (0.7 to 1.2 EC) | Prevent damping off due to use of fungicides. Critical to the culture of Campanella is the short day treatment in the plug stage. Start short day treatment of < 11 hours day length 2 weeks after sowing. This prevents initiate flowers in the plug stage and results in the right plant habit for filling pots nicely after transplant. Keep short days for the rest of the plug time (4 weeks of short day treatment). After transplant, long days > 14 hours are needed to initiate flowering. Campanella is responsive to B-Nine/ Alar 2,500 ppm or tank mix of B-Nine/ Alar 2,500 ppm and Cycocel 500 ppm. |
| (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. |
| (m) Level 4 (t) 72-77°F (22-25°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. |
| (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. |
| (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. |
| (m) Level 4 (t) 68-70°F (20-21°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 3 (t) 68-70°F (20-21°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) 66-68°F (19-20°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) | Don't water with cold water. Use water with a minimum temperature of 60°F/16°C. Watering with cold water results in deformed leaves and disturbs plant growth. |
| (m) Level 4 (t) 68-70°F (20-21°C) (l) 6-8 mol·m ⁻² ·d ⁻¹ , 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 ⁻² ·d ⁻¹ , 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 ⁻² ·d ⁻¹ , 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 result in deformed leaves and will disturb plant 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. |
| (m) Level 4 (t) 68-70°F (20-21°C) (l) 6 mol·m ⁻² ·d ⁻¹ , 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 ⁻² ·d ⁻¹ , 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 ⁻² ·d ⁻¹ , 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 result in deformed leaves and will disturb plant 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. |
| (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 can cause leaves to curl. |
| (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. |

(m) moisture (t) temperature (l) light (f) fertilizer (p) plant growth regulators

| CLASS/SERIES | SEED FORM | RECOMMENDED PLUG SIZE | PLUG CROP WEEKS | SEEDS/ CELL | COVER SEED | DAYS FROM 50% TO MAXIMUM GERMINATION | INITIAL MEDIA PH/EC (1:2) | STAGE 1 |
|--|-----------|-----------------------|-----------------|-------------|-------------|--------------------------------------|--------------------------------|---|
| PEPPER (ORNAMENTAL) <i>Capsicum annuum</i> Acapulco™ Series | 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) |
| PEPPER (ORNAMENTAL) <i>Capsicum annuum</i> Blaze | 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 |
| PEPPER (ORNAMENTAL) <i>Capsicum annuum</i> Chilly Chili F₁ | 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 |
| PEPPER (ORNAMENTAL) <i>Capsicum annuum</i> Cupala | 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) |
| PEPPER (ORNAMENTAL) <i>Capsicum annuum</i> Harlequin | 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) |
| PEPPER (ORNAMENTAL) <i>Capsicum annuum</i> Hot Pops Series | 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 |
| PEPPER (ORNAMENTAL) <i>Capsicum annuum</i> Joker | 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) |
| PEPPER (ORNAMENTAL) <i>Capsicum annuum</i> Masquerade | 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 |
| PEPPER (ORNAMENTAL) <i>Capsicum annuum</i> Medusa | 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 |

| STAGE 2 | STAGE 3 | STAGE 4 | KEY TIPS |
|--|---|--|--|
| <p>(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</p> | <p>(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</p> | <p>(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> | <p>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.</p> |
| <p>(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)</p> | <p>(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> | <p>(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)</p> | <p>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.</p> |
| <p>(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)</p> | <p>(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</p> | <p>(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)</p> | <p>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.</p> |
| <p>(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</p> | <p>(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</p> | <p>(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> | <p>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.</p> |
| <p>(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</p> | <p>(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</p> | <p>(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> | <p>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.</p> |
| <p>(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)</p> | <p>(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</p> | <p>(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)</p> | <p>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.</p> |
| <p>(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</p> | <p>(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</p> | <p>(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> | <p>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.</p> |
| <p>(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)</p> | <p>(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</p> | <p>(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)</p> | <p>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.</p> |
| <p>(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)</p> | <p>(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> | <p>(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)</p> | <p>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.</p> |

(m) moisture (t) temperature (l) light (f) fertilizer (p) plant growth regulators

| CLASS/SERIES | SEED FORM | RECOMMENDED PLUG SIZE | PLUG CROP WEEKS | SEEDS/ CELL | COVER SEED | DAYS FROM 50% TO MAXIMUM GERMINATION | INITIAL MEDIA PH/EC (1:2) | STAGE 1 |
|---|-----------|-----------------------|-----------------|-------------|-------------|--------------------------------------|--------------------------------|---|
| PEPPER (ORNAMENTAL) <i>Capsicum annuum</i> Red Missile | 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 |
| PEPPER (ORNAMENTAL) <i>Capsicum annuum</i> Salsa XP Series | 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) |
| PEPPER (ORNAMENTAL) <i>Capsicum annuum</i> Samba Series | 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) |
| PEPPER (ORNAMENTAL) <i>Capsicum annuum</i> Santos Series | 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) |
| PEPPER (ORNAMENTAL) <i>Capsicum annuum</i> Wicked | 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 |
| SUNFLOWER <i>Helianthus annuus</i> Ballad F₁ | 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) |
| SUNFLOWER <i>Helianthus annuus</i> Choco Sun | 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 |
| SUNFLOWER <i>Helianthus annuus</i> Miss Sunshine F₁ | 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 |
| SUNFLOWER <i>Helianthus annuus</i> SunBuzz F₁ | 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) |

| STAGE 2 | STAGE 3 | STAGE 4 | KEY TIPS |
|---|---|--|--|
| <p>(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)</p> | <p>(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</p> | <p>(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)</p> | <p>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.</p> |
| <p>(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</p> | <p>(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</p> | <p>(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> | <p>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.</p> |
| <p>(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</p> | <p>(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</p> | <p>(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> | <p>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.</p> |
| <p>(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</p> | <p>(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</p> | <p>(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> | <p>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.</p> |
| <p>(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)</p> | <p>(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</p> | <p>(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)</p> | <p>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.</p> |
| <p>(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)</p> | <p>(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)</p> | <p>(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)</p> | <p>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).</p> |
| <p>(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)</p> | <p>(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)</p> | <p>(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)</p> | <p>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).</p> |
| <p>(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)</p> | <p>(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)</p> | <p>(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)</p> | <p>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).</p> |
| <p>(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)</p> | <p>(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)</p> | <p>(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)</p> | <p>Can also be grown by direct sowing in smaller pots (quart, 5 in./13 cm).</p> |

(m) moisture (t) temperature (l) light (f) fertilizer (p) plant growth regulators

POTTED PLANTS / FINISHING GUIDE

| CLASS/SERIES | RECOMMENDED PLUG SIZE | GROWING ON TEMPERATURE (DAYS/NIGHTS) | TARGET MEDIA PH/EC (1:2) | DAYLENGTH |
|---|-----------------------|--|--------------------------------|--|
| CAMPANULA <i>Campanula medium</i> Campanella™ F₁ Series | 288 | (day) 62-64°F (17-18°C) (night) 58-60°F (14-16°C) | 5.8-6.2 pH 1.0 mmhos/cm | Obligate Long Day Maintain long days after transplant >14 hours of day light for flower initiation. If more vigorous plants are needed, two weeks of short day treatment <11 hours daylength before long day treatment >14 hours daylength will result in more vigorous plants. |
| CELOSIA <i>Celosia cristata</i> Concertina™ Series | 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 Short Day Crop can be finished in long day, but finishing in short days after transplant increases uniform flowering and habit across the series. |
| CELOSIA <i>Celosia spicata</i> Kosmo Series | 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. |
| EXACUM <i>Exacum affine</i> Princess Series | 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. |
| EXACUM <i>Exacum affine</i> Royal Dane Series | 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. |
| GERBERA <i>Gerbera jamesonii</i> ColorBloom™ F₁ Series | 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 |
| GERBERA <i>Gerbera jamesonii</i> Mega Revolution™ F₁ Series | 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 |
| GERBERA <i>Gerbera jamesonii</i> Revolution™ F₁ Series | 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 |
| HYPOESTES <i>Hypoestes phyllostachya</i> Splash Select™ Series | 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 | |
| LISIANTHUS <i>Eustoma grandiflorum</i> Sapphire F₁ Series | 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 |
| PEPPER (ORNAMENTAL) <i>Capsicum annuum</i> Acapulco™ Series | 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 |
| PEPPER (ORNAMENTAL) <i>Capsicum annuum</i> Blaze | 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 |
| PEPPER (ORNAMENTAL) <i>Capsicum annuum</i> Chilly Chili F₁ | 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 |

| FINISHING PROGRAMS | KEY TIPS |
|---|--|
| <p>5"/6"/1 Gallon/15 cm, 1 (ppp), 9-10 (weeks), Spring 5"/6"/1 Gallon/15 cm, 1 (ppp), 7-8 (weeks), Summer</p> | <p>Recommended pot size is 5 in./13 cm. Long day treatment is essential in finishing products. Pinching is not needed. When using bigger pots (6-in./15-cm or bigger), a soft pinch can result in fuller and bigger plants.</p> |
| <p>4"/4.5"/Quart/10 cm, 1 (ppp), 5-6 (weeks), Spring 4"/4.5"/Quart/10 cm, 1 (ppp), 4-5 (weeks), Summer 4"/4.5"/Quart/10 cm, 1 (ppp), 5-6 (weeks), Autumn</p> | <p>Don't pinch the plants. Recommended pot sizes: quart, 5 in./13 cm.</p> |
| <p>4"/4.5"/Quart/10 cm, 1 (ppp), 6-8 (weeks), Spring 4"/4.5"/Quart/10 cm, 1 (ppp), 5-7 (weeks), Summer</p> | <p>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) with 2 to 3 applications can be used. Do not treat when flower buds become visible.</p> |
| <p>4"/4.5"/Quart/10 cm, 1 (ppp), 12 (weeks), Spring 4"/4.5"/Quart/10 cm, 1 (ppp), 10 (weeks), Summer</p> | <p>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.</p> |
| <p>4"/4.5"/Quart/10 cm, 1 (ppp), 12 (weeks), Spring 4"/4.5"/Quart/10 cm, 1 (ppp), 10 (weeks), Summer</p> | <p>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.</p> |
| <p>4"/4.5"/Quart/10 cm, 1 (ppp), 8-9 (weeks), Spring 4"/4.5"/Quart/10 cm, 1 (ppp), 6-7 (weeks), Summer 4"/4.5"/Quart/10 cm, 1 (ppp), 8-9 (weeks), Autumn 4"/4.5"/Quart/10 cm, 1 (ppp), 9-10 (weeks), Winter</p> | <p>ColorBloom needs no or less PGR compared to Revolution. Be careful with the use of PGR; if necessary, use daminozide 1,000 to 2,500 spray. Stop use after seeing the first flower buds. Use quart/4 to 4.5-in./11 to 12-cm pots. Fill pots all the way to a uniform soil level. When transplanting, do not plant too deep, as this may result in Crown Rot. Space plants when leaves are touching, generally around 5 weeks after transplanting.</p> |
| <p>5"/6"/1 Gallon/15 cm, 1 (ppp), 10-11 (weeks), Spring, PGR daminozide 1,000-2,500 ppm Spray 5"/6"/1 Gallon/15 cm, 1 (ppp), 8-9 (weeks), Summer, PGR daminozide 1,000-2,500 ppm Spray 5"/6"/1 Gallon/15 cm, 1 (ppp), 10-11 (weeks), Autumn, PGR daminozide 1,000-2,500 ppm Spray 5"/6"/1 Gallon/15 cm, 1 (ppp), 11-12 (weeks), Autumn, PGR daminozide 1,000-2,500 ppm Spray</p> | <p>Use 6-in. (15 cm) pots or larger. Fill pots all the way to a uniform soil level. When transplanting, do not plant 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. Stop use after seeing the first flower buds.</p> |
| <p>5"/6"/1 Gallon/15 cm, 1 (ppp), 9-10 (weeks), Spring, PGR daminozide 1,000-2,500 ppm Spray 5"/6"/1 Gallon/15 cm, 1 (ppp), 7-8 (weeks), Summer, PGR daminozide 1,000-2,500 ppm Spray 5"/6"/1 Gallon/15 cm, 1 (ppp), 9-10 (weeks), Autumn, PGR daminozide 1,000-2,500 ppm Spray 5"/6"/1 Gallon/15 cm, 1 (ppp), 10-11 (weeks), Winter, PGR daminozide 1,000-2,500 ppm Spray</p> | <p>Use 4.5 to 5.5-in. (11 to 14-cm) pots for standard Revolution. Fill pots all the way to a uniform soil level. When transplanting, do not plant 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. Stop use after seeing the first flower buds.</p> |
| <p>Cell Pack, 1 (ppp), 5-6 (weeks), Spring, PGR daminozide/ chlormequat chloride tank mix 1,000/500 ppm Spray 4"/4.5"/Quart/10 cm, 3-4 (ppp), 5-6 (weeks), Spring, PGR daminozide/ chlormequat chloride tank mix 1,000/500 ppm Spray</p> | <p>Too much light can cause leaves to curl. Grow under low light conditions (400 to 500 f.c./4,000 to 5,000 Lux).</p> |
| <p>4"/4.5"/Quart/10 cm, 1 (ppp), 12-14 (weeks), Spring</p> | <p>Maintain pH above 6.5. Do not allow plugs to become rootbound. Lisianthus are tender seedlings and are recommended as a plug-purchased item.</p> |
| <p>4"/4.5"/Quart/10 cm, 1 (ppp), 12-13 (weeks), Autumn, PGR chlormequat chloride 1,000 ppm Spray</p> | <p>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.</p> |
| <p>4"/4.5"/Quart/10 cm, 1 (ppp), 7-13 (weeks), Summer 5"/6"/1 Gallon/15 cm, 1-3 (ppp), 7-13 (weeks), Summer 4"/4.5"/Quart/10 cm, 1 (ppp), 7-13 (weeks), Autumn 5"/6"/1 Gallon/15 cm, 1-3 (ppp), 7-13 (weeks), Autumn</p> | <p>Performs best under high light and warm temperatures. Add 4 to 5 weeks for Spring production crop times.</p> |
| <p>4"/4.5"/Quart/10 cm, 1 (ppp), 7-13 (weeks), Summer 5"/6"/1 Gallon/15 cm, 1-3 (ppp), 7-13 (weeks), Summer 4"/4.5"/Quart/10 cm, 1 (ppp), 7-13 (weeks), Autumn 5"/6"/1 Gallon/15 cm, 1-3 (ppp), 7-13 (weeks), Autumn</p> | <p>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.</p> |

POTTED PLANTS / FINISHING GUIDE

| CLASS/SERIES | RECOMMENDED PLUG SIZE | GROWING ON TEMPERATURE (DAYS/NIGHTS) | TARGET MEDIA PH/EC (1:2) | DAYLENGTH |
|---|-----------------------|--|--------------------------------|--|
| PEPPER (ORNAMENTAL) <i>Capsicum annuum</i> Cupala | 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 |
| PEPPER (ORNAMENTAL) <i>Capsicum annuum</i> Harlequin | 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 |
| PEPPER (ORNAMENTAL) <i>Capsicum annuum</i> Hot Pops Series | 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 |
| PEPPER (ORNAMENTAL) <i>Capsicum annuum</i> Joker | 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 |
| PEPPER (ORNAMENTAL) <i>Capsicum annuum</i> Masquerade | 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 |
| PEPPER (ORNAMENTAL) <i>Capsicum annuum</i> Medusa | 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 |
| PEPPER (ORNAMENTAL) <i>Capsicum annuum</i> Red Missile | 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 |
| PEPPER (ORNAMENTAL) <i>Capsicum annuum</i> Salsa XP Series | 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 |
| PEPPER (ORNAMENTAL) <i>Capsicum annuum</i> Samba Series | 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 |
| PEPPER (ORNAMENTAL) <i>Capsicum annuum</i> Santos Series | 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 |
| PEPPER (ORNAMENTAL) <i>Capsicum annuum</i> Wicked | 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 |
| SUNFLOWER <i>Helianthus annuus</i> Ballad F₁ | 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. |
| SUNFLOWER <i>Helianthus annuus</i> Choco Sun | 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. |
| SUNFLOWER <i>Helianthus annuus</i> Miss Sunshine F₁ | 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. |
| SUNFLOWER <i>Helianthus annuus</i> SunBuzz F₁ | 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 Plant flowers faster under short day conditions. Growing in daylength of 14 hours or more delays flowering significantly. |

| FINISHING PROGRAMS | KEY TIPS |
|--|--|
| 4"/4.5"/Quart/10 cm, 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. |
| 4"/4.5"/Quart/10 cm, 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. |
| 4"/4.5"/Quart/10 cm, 1 (ppp), 7-13 (weeks), Summer 5"/6"/1 Gallon/15 cm, 1-3 (ppp), 7-13 (weeks), Summer 4"/4.5"/Quart/10 cm, 1 (ppp), 7-13 (weeks), Autumn 5"/6"/1 Gallon/15 cm, 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. |
| 4"/4.5"/Quart/10 cm, 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. |
| 5"/6"/1 Gallon/15 cm, 1-3 (ppp), 7-12 (weeks), Summer 5"/6"/1 Gallon/15 cm, 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. |
| 4"/4.5"/Quart/10 cm, 1 (ppp), 7-13 (weeks), Summer 5"/6"/1 Gallon/15 cm, 1-3 (ppp), 7-13 (weeks), Summer 4"/4.5"/Quart/10 cm, 1 (ppp), 7-13 (weeks), Autumn 5"/6"/1 Gallon/15 cm, 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. |
| 4"/4.5"/Quart/10 cm, 1 (ppp), 7-10 (weeks), Summer 5"/6"/1 Gallon/15 cm, 1-3 (ppp), 7-11 (weeks), Summer 4"/4.5"/Quart/10 cm, 1 (ppp), 7-10 (weeks), Autumn 5"/6"/1 Gallon/15 cm, 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. |
| 4"/4.5"/Quart/10 cm, 1 (ppp), 12-13 (weeks), Autumn, PGR chlormequat chloride 1,000 ppm Spray | Plant plugs deep. Water from below to keep the surface of the 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. |
| 4"/4.5"/Quart/10 cm, 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. |
| 4"/4.5"/Quart/10 cm, 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. |
| 4"/4.5"/Quart/10 cm, 1 (ppp), 7-13 (weeks), Summer 5"/6"/1 Gallon/15 cm, 1-3 (ppp), 7-13 (weeks), Summer 4"/4.5"/Quart/10 cm, 1 (ppp), 7-13 (weeks), Autumn 5"/6"/1 Gallon/15 cm, 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. |
| 5"/6"/1 Gallon/15 cm, 1-3 (ppp), 8-9 (weeks), Spring, PGR daminozide 3,500-5,000 ppm Spray 5"/6"/1 Gallon/15 cm, 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. |
| 5"/6"/1 Gallon/15 cm, 1 (ppp), 8-9 (weeks), Spring, PGR daminozide 3,500-5,000 ppm Spray 5"/6"/1 Gallon/15 cm, 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. |
| 5"/6"/1 Gallon/15 cm, 1-3 (ppp), 7-8 (weeks), Spring, PGR daminozide 1,250-2,500 ppm Spray 5"/6"/1 Gallon/15 cm, 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. |
| 5"/6"/1 Gallon/15 cm, 1-3 (ppp), 7-8 (weeks), Spring, PGR daminozide 3,500-5,000 ppm Spray 5"/6"/1 Gallon/15 cm, 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. |

CUT FLOWERS



BloomStudiosSM



| | |
|-------------------------------|--|
| WAVE | PHOTOPERIODIC LIGHTING CHART P. 4 |
| ANNUALS | PROPAGATION GUIDE P. 8 / FINISHING GUIDE P. 46 |
| PERENNIALS | PROPAGATION GUIDE P. 80 / FINISHING GUIDE P. 92 / FORCING GUIDE P. 108 |
| POTTED PLANTS | PROPAGATION GUIDE P. 112 / FINISHING GUIDE P. 118 |
| VEGETABLES & HERBS | |
| HANDPICKED | PROPAGATION GUIDE P. 142 / FINISHING GUIDE P. 156 |
| KITCHEN MINIS | PROPAGATION GUIDE P. 168 / FINISHING GUIDE P. 172 |



| CLASS/SERIES | SEED FORM | RECOMMENDED PLUG SIZE | PLUG CROP WEEKS | SEEDS/ CELL | COVER SEED | DAYS FROM 50% TO MAXIMUM GERMINATION | INITIAL MEDIA PH/EC (1:2) | STAGE 1 |
|---|-----------|-----------------------|-----------------|-------------|-------------|--------------------------------------|-----------------------------|---|
| ANEMONE <i>Anemone coronaria</i> Mona Lisa® F₁ Series | RAW | 288 | 7-8 | 1 | Yes | 10-14 | 5.8-6.2 pH 0.75 mmhos/cm | (m) Level 4-5 (t) 65-70°F (18-21°C) |
| ASCLEPIAS <i>Asclepias curassavica</i> Silky Series | 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) Light (f) Less than 100 ppm N (Less than 0.7 EC) |
| CAMPANULA <i>Campanula medium</i> Campana F₁ Series | 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) |
| CARTHAMUS <i>Carthamus tinctorius</i> Grenade Series | COT | Direct sow | N/A | | | | | (t) 54-60°F (12-16°C) (f) Less than 100 ppm N (Less than 0.7 EC) |
| CELOSIA <i>Celosia spicata</i> Celway™ Series | PEL | 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) |
| CELOSIA <i>Celosia cristata</i> Neo™ Series | PEL | 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) |
| CELOSIA <i>Celosia cristata</i> Spring Green | PEL | 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) |
| CELOSIA <i>Celosia plumosa</i> Sunday™ Series | PEL | 288 | 2-3 | 1 | Light cover | 3-4 | 5.8-6.5 pH 0.75 mmhos/cm | (m) Level 4 (t) 77°F (25°C) (l) Light (f) Less than 100 ppm N (Less than 0.7 EC) |
| DELPHINIUM <i>Delphinium x belladonna</i> Blue Donna | 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) |

| STAGE 2 | STAGE 3 | STAGE 4 | KEY TIPS |
|--|--|--|---|
| (m) Level 4-5 (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 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 3-4 (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. |
| (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) | |
| (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. |
| | | | 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. |
| (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. |
| (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. |
| (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. |
| (m) Level 4 (t) 72-77°F (22-25°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. |
| (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 ⁻² ·d ⁻¹ , 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 ⁻² ·d ⁻¹ , 4,000-5,000 f.c. (43,100-53,800 Lux) (f) 100 to 175 ppm N (0.7 to 1.2 EC) | |

(m) moisture (t) temperature (l) light (f) fertilizer (p) plant growth regulators

| CLASS/SERIES | SEED FORM | RECOMMENDED PLUG SIZE | PLUG CROP WEEKS | SEEDS/ CELL | COVER SEED | DAYS FROM 50% TO MAXIMUM GERMINATION | INITIAL MEDIA PH/EC (1:2) | STAGE 1 |
|---|-----------|-----------------------|-----------------|-------------|-------------|--------------------------------------|-----------------------------|---|
| DELPHINIUM <i>Delphinium elatum</i> Guardian F₁ Series | 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) |
| DIANTHUS <i>Dianthus barbatus interspecific</i> Amazon™ F₁ Series | 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 |
| DIANTHUS <i>Dianthus barbatus</i> Sweet™ F₁ Series | 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 |
| GOMPHRENA <i>Gomphrena pulchella</i> Fireworks | COT | 288 | 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 |
| GOMPHRENA <i>Gomphrena haageana</i> QIS Series | 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) |
| GRASS PANICUM CAPILLARE <i>Panicum capillare</i> Frosted Explosion | MPL | 288 | 4-5 | 1 | Light cover | 3-8 | 5.8-6.4 pH 0.75 mmhos/cm | (m) Level 5-4 (t) 65-68°F (18-20°C) (l) Optional (f) Less than 100 ppm N (Less than 0.7 EC) |
| LIMONIUM <i>Limonium sinuatum</i> QIS Series | 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) |
| LISIANTHUS <i>Eustoma grandiflorum</i> ABC™ F₁ Series | 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) |
| LISIANTHUS <i>Eustoma grandiflorum</i> Can Can F₁ Series | 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) |
| LISIANTHUS <i>Eustoma grandiflorum</i> Flare F₁ Series | 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) |
| MARIGOLD <i>Tagetes erecta</i> Xochi™ F₁ Series | COT | 288 | 3-4 | 1 | Yes | 2-3 | 6.2-6.5 pH 0.08 mmhos/cm | (m) Level 4 (t) 70-72°F (21-22°C) (l) Optional |

| STAGE 2 | STAGE 3 | STAGE 4 | KEY TIPS |
|---|---|--|---|
| (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) | |
| (m) Level 3-4 (t) 65-70°F (18-21°C) (l) 5-8 mol·m ⁻² ·d ⁻¹ (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 ⁻² ·d ⁻¹ (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 ⁻² ·d ⁻¹ (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. |
| (m) Level 3-4 (t) 65-70°F (18-21°C) (l) 5-8 mol·m ⁻² ·d ⁻¹ (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 ⁻² ·d ⁻¹ (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 ⁻² ·d ⁻¹ (f) 175 to 225 ppm N (1.2 to 1.5 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) 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. |
| (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) | |
| (m) Level 4-3 (t) 65-68°F (18-20°C) (l) 2,500 f.c. (26,900 Lux) | (m) Level 3 (t) 60-65°F (16-18°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) | (m) Level 2 (t) 60-65°F (16-18°C) (l) 5,000 f.c. (53,800 Lux) | Panicum Frosted Explosion has a facultative short day flowering response. Plugs should be grown under 14+ hours of light. MPL sown trays need sufficient tray watering (guideline is approximately 500 ml per 30 seconds, average belt speed); then trays needs quick transfer to a high-moisture germ chamber to avoid dry back of the clay pellet material. |
| (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. |
| (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. |
| (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. |
| (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. |
| (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. Plant growth regulators are not generally required. |

(m) moisture (t) temperature (l) light (f) fertilizer (p) plant growth regulators

| CLASS/SERIES | SEED FORM | RECOMMENDED PLUG SIZE | PLUG CROP WEEKS | SEEDS/ CELL | COVER SEED | DAYS FROM 50% TO MAXIMUM GERMINATION | INITIAL MEDIA PH/EC (1:2) | STAGE 1 |
|--|-----------|-----------------------|-----------------|-------------|------------|--------------------------------------|-----------------------------|---|
| MATRICARIA <i>Tanacetum parthenium</i> Vegmo Series | 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) |
| MATTHIOLA <i>Matthiola incana</i> Aida Series | 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) |
| MATTHIOLA <i>Matthiola incana</i> Column Stock Series | 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) |
| MATTHIOLA <i>Matthiola incana</i> Figaro Series | 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) |
| MATTHIOLA <i>Matthiola incana</i> Katz Hi Double Series | 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) |
| MATTHIOLA <i>Matthiola incana</i> Katz Series | 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) |
| MATTHIOLA <i>Matthiola incana</i> Mathilda™ Series | 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) |
| MATTHIOLA <i>Matthiola incana</i> Opera Series | 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) |

| STAGE 2 | STAGE 3 | STAGE 4 | KEY TIPS |
|---|--|--|--|
| <p>(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)</p> | <p>(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)</p> | <p>(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)</p> | |
| <p>(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)</p> | <p>(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)</p> | <p>(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)</p> | <p>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.</p> |
| <p>(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)</p> | <p>(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)</p> | <p>(m) Level 3 (t) 55-60°F (13-16°C) (l) 1,500-2,500 f.c. (26,900-53,800 Lux) (f) 100 to 175 ppm N (0.7 to 1.2 EC)</p> | <p>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.</p> |
| <p>(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)</p> | <p>(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)</p> | <p>(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)</p> | <p>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.</p> |
| <p>(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)</p> | <p>(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)</p> | <p>(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)</p> | <p>Katz Hi Double produces a minimum of 90% double-flowering plants. Katz Hi Double is not recommended for seedling selection of double-flowering plants. Incorporate a preventative fungicide program for downy mildew control.</p> |
| <p>(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)</p> | <p>(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)</p> | <p>(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)</p> | <p>Katz is not recommended for seedling selection of double-flowering matthiola. Incorporate a preventative fungicide program for downy mildew control.</p> |
| <p>(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)</p> | <p>(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)</p> | <p>(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)</p> | <p>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.</p> |
| <p>(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)</p> | <p>(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)</p> | <p>(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)</p> | <p>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.</p> |

(m) moisture (t) temperature (l) light (f) fertilizer (p) plant growth regulators

| CLASS/SERIES | SEED FORM | RECOMMENDED PLUG SIZE | PLUG CROP WEEKS | SEEDS/ CELL | COVER SEED | DAYS FROM 50% TO MAXIMUM GERMINATION | INITIAL MEDIA PH/EC (1:2) | STAGE 1 |
|--|-----------|-----------------------|-----------------|-------------|-------------|--------------------------------------|-----------------------------|---|
| MATTHIOLA <i>Matthiola incana</i> Tosca Series | 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) |
| SNAPDRAGON <i>Antirrhinum majus</i> Cool F₁ Series | 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) |
| SNAPDRAGON <i>Antirrhinum majus</i> Early Potomac™ F₁ Series | 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) |
| SNAPDRAGON <i>Antirrhinum majus</i> Maryland F₁ Series | 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) |
| SNAPDRAGON <i>Antirrhinum majus</i> Monaco F₁ Series | 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) |
| SNAPDRAGON <i>Antirrhinum majus</i> Potomac™ F₁ Series | 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) |
| SNAPDRAGON <i>Antirrhinum majus</i> Purple Twist F₁ | 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) |
| TRACHELIUM <i>Trachelium caeruleum</i> Lake Series | 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) |

| STAGE 2 | STAGE 3 | STAGE 4 | KEY TIPS |
|---|--|--|--|
| <p>(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)</p> | <p>(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)</p> | <p>(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)</p> | <p>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.</p> |
| <p>(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)</p> | <p>(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)</p> | <p>(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)</p> | <p>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.</p> |
| <p>(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)</p> | <p>(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)</p> | <p>(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)</p> | <p>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.</p> |
| <p>(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)</p> | <p>(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)</p> | <p>(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)</p> | <p>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.</p> |
| <p>(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)</p> | <p>(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)</p> | <p>(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)</p> | <p>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.</p> |
| <p>(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)</p> | <p>(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)</p> | <p>(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)</p> | <p>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.</p> |
| <p>(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)</p> | <p>(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)</p> | <p>(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)</p> | <p>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.</p> |
| <p>(m) Level 3-4 (t) 62-70°F (17-21°C) (f) Less than 100 ppm N (Less than 0.7 EC)</p> | <p>(m) Level 2-3 (t) 62-70°F (17-21°C) (f) 100 to 175 ppm N (0.7 to 1.2 EC)</p> | <p>(m) Level 2-3 (t) 62-70°F (17-21°C) (f) 100 to 175 ppm N (0.7 to 1.2 EC)</p> | <p>Trachelium is very sensitive to high salts during germination, particularly high ammonium.</p> |

(m) moisture (t) temperature (l) light (f) fertilizer (p) plant growth regulators

| CLASS/SERIES | DAYLENGTH | FINISHING PROGRAMS |
|---|---|--|
| ANEMONE <i>Anemone coronaria</i> Mona Lisa® F₁ Series | Day Neutral | Greenhouse , Support: Not needed (day) 60-65°F (16-18°C) (night) 55°F (13°C) 2-4 plants/ft² (22-43 plants/m²), 12-14 weeks |
| ASCLEPIAS <i>Asclepias curassavica</i> Silky Series | Day Neutral | Field grown , Support: Not needed 3-4 plants/ft² (32-43 plants/m²), 8-12 weeks Greenhouse , Support: Not needed (day) 70-75°F (21-24°C) (night) 60-65°F (16-18°C) 2-3 plants/ft² (22-32 plants/m²), 10-14 weeks Tunnel , Support: Not needed 3-4 plants/ft² (32-43 plants/m²), 8-12 weeks |
| CAMPANULA <i>Campanula medium</i> Campana F₁ Series | Facultative Long Day Plants need long day (> 14 hours daylength) for flower initiation. | Greenhouse , Support: Recommended (day) 60-70°F (16-21°C) (night) 55-60°F (13-16°C) 6-8 plants/ft² (65-86 plants/m²), 8-12 weeks |
| CARTHAMUS <i>Carthamus tinctorius</i> Grenade Series | | Field grown , Support: Recommended 6 plants/ft² (65 plants/m²), 8-12 weeks Tunnel , Support: Recommended 4-6 plants/ft² (43-65 plants/m²), 8-12 weeks |
| CELOSIA <i>Celosia spicata</i> Celway™ Series | Facultative Short Day Facultative short-day plant. Flowers will initiate faster under short days. The optimum daylength for Celway to reach the maximum stem length lies between 12 to 13 hours, but will perform well under longer daylengths. | Field grown , Support: Recommended (day) 65-80°F (18-27°C) (night) 60-70°F (16-21°C) 6-8 plants/ft² (65-86 plants/m²), 8-10 weeks Tunnel , Support: Recommended (day) 65-80°F (18-27°C) (night) 60-70°F (16-21°C) 6-8 plants/ft² (65-86 plants/m²), 8-12 weeks |
| CELOSIA <i>Celosia cristata</i> Neo™ Series | Facultative Short Day Facultative short-day plant. Flowers will initiate faster under short days. | Greenhouse , Support: Required (day) 60-65°F (16-18°C) (night) 60°F (16°C) 6-8 plants/ft² (65-86 plants/m²), 8-12 weeks Tunnel , Support: Required (day) 60-75°F (16-24°C) (night) 59-65°F (15-18°C) 6-8 plants/ft² (65-86 plants/m²), 6-10 weeks |
| CELOSIA <i>Celosia cristata</i> Spring Green | Facultative Short Day The optimum daylength to reach the maximum stem length lies between 12 to 13 hours. | Field grown , Support: Recommended (day) 65-80°F (18-27°C) (night) 60-70°F (16-21°C) 6-8 plants/ft² (65-86 plants/m²), 6-8 weeks Greenhouse , Support: Recommended (day) 60-65°F (16-18°C) (night) 60°F (16°C) 6-8 plants/ft² (65-86 plants/m²), 8-14 weeks |
| CELOSIA <i>Celosia plumosa</i> Sunday™ Series | Facultative Short Day The optimum daylength for Celosia Sunday to reach the maximum stem length is between 12 to 13 hours. Under greenhouse 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 may 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. Under field conditions, crop will initiate flowers faster under short days. Schedule your crop to receive long days after transplant to achieve stem length desired. | Field grown , Support: Required (day) 65-80°F (18-27°C) (night) 60-70°F (16-21°C) 6-8 plants/ft² (65-86 plants/m²), 8-12 weeks Greenhouse , Support: Required (day) 60-65°F (16-18°C) (night) 60°F (16°C) 6-8 plants/ft² (65-86 plants/m²), 12-16 weeks |

| RECOMMENDED PLUG SIZE | STEM LENGTH | KEY TIPS |
|-----------------------|-----------------------|---|
| 288 | 18 in. (46 cm) | Optimal stem length can be achieved with cool growing conditions (53 to 58°F/12 to 14°C). If flowering too short while maintaining optimal temperatures, reduce light intensity. |
| 288 | 22-28 in. (56-71 cm) | |
| 288 | 30-34 in. (76-86 cm) | To ensure sufficient vegetative growth and stem length, use short day grown plugs. Best practices for producing cut flower <i>Campanula Campana</i> must be followed to assure best stem length and strength, and to control the timing of bud set. When transplanting under long or increasing daylength, make sure plants have short days (<13 hours) for 4 to 5 weeks, using black cloth where needed. Follow that with natural long days (>14 hours) for production finish. When transplanting under short days, give plants natural short days (13 hours) for 4 to 5 weeks, followed by daylength extension to long days (>14 hours) for production finish. Mum lighting from 10 p.m. to 2 a.m. can be used. Maintain a medium moisture level. To reach sufficient stem length, <i>Campanula medium</i> 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. |
| Direct sow | 32-40 in. (81-102 cm) | Harvest timing is affected by heat and light quality, and reflects direct sow method. If desired, apical bud can be removed to ensure more buds opening at the same time. |
| 288 | 30-48 in. (76-122 cm) | <i>Celosia</i> 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. |
| 288 | 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. <i>Celosia</i> 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. Before flower development, temperatures 65-75°F (day) 63-65°F (night) are recommended. Better flower quality is achieved if greenhouse temperatures are lowered as flowers develop. Not recommended for pinch. |
| 288 | 24-40 in. (61-102 cm) | <i>Celosia</i> 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. Before flower development, temperatures 65-75°F (day) 63-65°F (night) are recommended. Better flower quality is achieved if greenhouse temperatures are lowered as flowers develop. Do not pinch Spring Green. |
| 288 | 28-40 in. (71-102 cm) | <i>Celosia</i> 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. Before flower development, temperatures 65-75°F (day) 63-65°F (night) are recommended. Better flower quality is achieved if greenhouse temperatures are lowered as flowers develop. |

| CLASS/SERIES | DAYLENGTH | FINISHING PROGRAMS |
|---|---|---|
| DELPHINIUM <i>Delphinium x belladonna</i> Blue Donna | Facultative Long Day | Field grown , Support: Recommended (day) 63-68°F (17-20°C) (night) 53-58°F (12-14°C) 1-2 plants/ft² (11-22 plants/m²), 12-15 weeks Greenhouse , Support: Recommended (day) 63-68°F (17-20°C) (night) 53-58°F (12-14°C) 1-2 plants/ft² (11-22 plants/m²), 12-15 weeks |
| DELPHINIUM <i>Delphinium elatum</i> Guardian F₁ Series | Facultative Long Day | Field grown , Support: Recommended (day) 68-71°F (20-22°C) (night) 60-65°F (16-18°C) 4 plants/ft² (43 plants/m²), 13-16 weeks Greenhouse , Support: Recommended (day) 68-71°F (20-22°C) (night) 60-65°F (16-18°C) 4 plants/ft² (43 plants/m²), 11-13 weeks |
| DIANTHUS <i>Dianthus barbatus interspecific</i> Amazon™ F₁ Series | 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. | Tunnel , Support: Required (day) 60-72°F (16-22°C) (night) 50-60°F (10-16°C) 3-4 plants/ft² (32-43 plants/m²), 14-18 weeks |
| DIANTHUS <i>Dianthus barbatus</i> Sweet™ F₁ Series | 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. | Greenhouse , Support: Required (day) 60-65°F (16-18°C) (night) 55-60°F (13-16°C) 6-8 plants/ft² (65-86 plants/m²), 11-13 weeks Tunnel , Support: Required (day) 60-72°F (16-22°C) (night) 50-60°F (10-16°C) 6-8 plants/ft² (65-86 plants/m²), 11-15 weeks |
| GOMPHRENA <i>Gomphrena pulchella</i> Fireworks | Day Neutral | Field grown , Support: Recommended 1 plants/ft² (11 plants/m²), 10-12 weeks |
| GOMPHRENA <i>Gomphrena haageana</i> QIS Series | | Field grown , Support: Not needed (day) 65-75°F (18-24°C) (night) 63-66°F (17-19°C) 1-2 plants/ft² (11-22 plants/m²), 10-12 weeks |
| GRASS PANICUM CAPILLARE <i>Panicum capillare</i> Frosted Explosion | Facultative Short Day Facultative short day. Daylength extension will ensure good stem length when days are shorter than 14 hours. | Field grown , Support: Required (day) 65-75°F (18-24°C) (night) 58-65°F (14-18°C) 2-3 plants/ft² (22-32 plants/m²), 7-9 weeks Greenhouse , Support: Required (day) 60-65°F (16-18°C) (night) 58-60°F (14-16°C) 2-3 plants/ft² (22-32 plants/m²), 8-11 weeks |
| LIMONIUM <i>Limonium sinuatum</i> QIS Series | Facultative Long Day | Field grown , Support: Not needed 1-2 plants/ft² (11-22 plants/m²), 7-10 weeks Tunnel , Support: Not needed 1-2 plants/ft² (11-22 plants/m²), 8-12 weeks |
| LISIANTHUS <i>Eustoma grandiflorum</i> ABC™ F₁ Series | 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. | Greenhouse , Support: Recommended (day) 65-80°F (18-27°C) (night) 55-60°F (13-16°C) 6-8 plants/ft² (65-86 plants/m²), 13-16 weeks Tunnel , Support: Recommended (day) 65-80°F (18-27°C) (night) 55-60°F (13-16°C) 6-8 plants/ft² (65-86 plants/m²), 13-16 weeks |
| LISIANTHUS <i>Eustoma grandiflorum</i> Can Can F₁ Series | 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. | Greenhouse , Support: Recommended (day) 65-85°F (18-29°C) (night) 55-65°F (13-18°C) 6-8 plants/ft² (65-86 plants/m²), 12-16 weeks Tunnel , Support: Recommended (day) 65-85°F (18-29°C) (night) 55-65°F (13-18°C) 6-8 plants/ft² (65-86 plants/m²), 12-16 weeks |

| RECOMMENDED PLUG SIZE | STEM LENGTH | KEY TIPS |
|-----------------------|-----------------------|---|
| 288 | 20-35 in. (51-89 cm) | Planting density: Annual greenhouse production = 12 to 16 plants/m ² . Annual field production = 16 to 18 plants/m ² . Perennial field production = 9 plants/m ² . 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 harvests 5 to 6 weeks later. Second and third harvests give best quality stems. |
| 288 | 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. |
| 288 | 20-36 in. (51-91 cm) | Transplant directly into ground beds approximately 5 weeks after sowing, spacing 30 to 40 plants per sq. m. (approximately 3 to 4 plants per sq. ft.). 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. |
| 288 | 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. |
| 288 | 36-48 in. (91-122 cm) | |
| 288 | 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. |
| 288 | 20-28 in. (51-71 cm) | Needs sufficient light intensity at a minimum of 150W/m ² . Insufficient light may lead to yellow leaf edges and reduced stem length. Avoid too low RH, as this can also cause yellow leaf edges. Two layers of support netting is advised. |
| 288 | 30-35 in. (76-89 cm) | Popular series for both fresh and preserved cut flower production. Stiff stems do not require netting. Start plants cool, 55-60°F (day) 50-55°F (night), before flower development. Remove early buds and let plants bulk up to improve uniformity and yield. |
| 406 | 29-45 in. (74-114 cm) | 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 3 varieties grown under long days. Crop time is dependent on time of year, temperature, daylength and light intensity, and also on supplemental lighting and greenhouse conditions. |
| 406 | 29-45 in. (74-114 cm) | Full-sun plantings of cut flower lisianthus produce shorter stems than greenhouse-grown lisianthus. Can Can is a series of F1 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. Can Can series is Speed Group 3 (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. |

| CLASS/SERIES | DAYLENGTH | FINISHING PROGRAMS |
|--|---|--|
| LISIANTHUS <i>Eustoma grandiflorum</i> Flare F¹ Series | 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. | Greenhouse , Support: Recommended (day) 65-80°F (18-27°C) (night) 55-65°F (13-18°C) 6-8 plants/ft ² (65-86 plants/m ²), 13-16 weeks Tunnel , Support: Required (day) 65-80°F (18-27°C) (night) 55-65°F (13-18°C) 6-8 plants/ft ² (65-86 plants/m ²), 13-16 weeks |
| MARIGOLD <i>Tagetes erecta</i> Xochi™ F¹ Series | Facultative Short Day Will flower quicker with shorter stem length when the daylength is 12 hours or or less. | Field grown , Support: Not needed (day) 75-90°F (24-32°C) (night) 65-70°F (18-21°C) 8-10 plants/ft ² (86-108 plants/m ²), 7-9 weeks Tunnel , Support: Not needed 8-10 plants/ft ² (86-108 plants/m ²), 7-9 weeks |
| MATRICARIA <i>Tanacetum parthenium</i> Vegmo Series | Obligate Long Day Matricaria has an obligate long day flowering response. Critical daylength is 14 hours. When extending daylength night interruption for 2-4 hours begun at 12:00 am, or early AM extension before dawn are effective. Cyclic lighting for 7.5 minutes every half hour can also be used. | Greenhouse , Support: Recommended (day) 60-65°F (16-18°C) (night) 55-60°F (13-16°C) 7-8 plants/ft ² (75-86 plants/m ²), 10-12 weeks (day) 55-58°F (13-14°C) (night) 50-51°F (10-11°C) 7 plants/ft ² (75 plants/m ²), 14-16 weeks (day) 72-76°F (22-24°C) (night) 60-74°F (16-23°C) 8 plants/ft ² (86 plants/m ²), 7-10 weeks |
| MATTHIOLA <i>Matthiola incana</i> Aida Series | 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. | Greenhouse , Support: Recommended (day) 60-65°F (16-18°C) (night) 55-60°F (13-16°C) 6-7 plants/ft ² (65-75 plants/m ²), 9-11 weeks |
| MATTHIOLA <i>Matthiola incana</i> Column Stock Series | | Field grown , Support: Not needed (day) 55-65°F (13-18°C) (night) 50-60°F (10-16°C) 20-22 weeks |
| MATTHIOLA <i>Matthiola incana</i> Figaro Series | 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. | Greenhouse , Support: Recommended (day) 60-65°F (16-18°C) (night) 55-60°F (13-16°C) 6-7 plants/ft ² (65-75 plants/m ²), 9-11 weeks |
| MATTHIOLA <i>Matthiola incana</i> Katz Hi Double Series | | Field grown , Support: Not needed (day) 60-75°F (16-24°C) (night) 45-55°F (7-13°C) 10-12 plants/ft ² (108-129 plants/m ²), 8-13 weeks Tunnel , Support: Recommended (day) 60-75°F (16-24°C) (night) 45-55°F (7-13°C) 8-10 plants/ft ² (86-108 plants/m ²), 8-13 weeks |
| MATTHIOLA <i>Matthiola incana</i> Katz Series | | Field grown , Support: Not needed (day) 60-75°F (16-24°C) (night) 45-55°F (7-13°C) 10-12 plants/ft ² (108-129 plants/m ²), 8-13 weeks Tunnel , Support: Recommended (day) 60-75°F (16-24°C) (night) 45-55°F (7-13°C) 8-10 plants/ft ² (86-108 plants/m ²), 8-13 weeks |
| MATTHIOLA <i>Matthiola incana</i> Mathilda™ Series | 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. | Greenhouse , Support: Recommended (day) 60-65°F (16-18°C) (night) 55-60°F (13-16°C) 6-7 plants/ft ² (65-75 plants/m ²), 9-11 weeks |

| RECOMMENDED PLUG SIZE | STEM LENGTH | KEY TIPS |
|-----------------------|-----------------------|---|
| 406 | 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 F1 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. |
| 288 | 30-36 in. (76-91 cm) | Take care when handling flowers to avoid snapping flower heads off of stems. Marigolds can be stored either wet or dry at 2-5°C (35-38°F). If storing wet, use a commercial floral holding solution. |
| 288 | 28-36 in. (71-91 cm) | Stem length is affected by daylength, temperature and fertility. High temperatures during induction will result in shorter stems. Matricaria is not sensitive to ethylene. |
| 288 | 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. |
| Direct sow | 24-30 in. (61-76 cm) | Column stocks are non-selectable for doubleness. Direct sow seed at 2.2 lbs./acre (1 kg/4,000 m²). Optimum stem length will be achieved during cool growing periods. High heat can stunt plants or prevent flower spikes from developing. |
| 288 | 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. |
| 512 | 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. |
| 512 | 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. |
| 288 | 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. |

| CLASS/SERIES | DAYLENGTH | FINISHING PROGRAMS |
|--|--|--|
| MATTHIOLA <i>Matthiola incana</i> Opera Series | 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. | Greenhouse , Support: Recommended (day) 60-65°F (16-18°C) (night) 55-60°F (13-16°C) 6-7 plants/ft² (65-75 plants/m²), 9-11 weeks |
| MATTHIOLA <i>Matthiola incana</i> Tosca Series | 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. Tosca series is Late Spring/Summer flowering, Group 3. | Greenhouse , Support: Recommended (day) 60-65°F (16-18°C) (night) 55-60°F (13-16°C) 6-7 plants/ft² (65-75 plants/m²), 9-11 weeks |
| SNAPDRAGON <i>Antirrhinum majus</i> Cool F₁ Series | 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. | Greenhouse , Support: Required (day) 50-55°F (10-13°C) (night) 45-50°F (7-10°C) 8-10 plants/ft² (86-108 plants/m²), 15-18 weeks Tunnel , Support: Required (day) 50-55°F (10-13°C) (night) 45-50°F (7-10°C) 8-10 plants/ft² (86-108 plants/m²), 15-18 weeks |
| SNAPDRAGON <i>Antirrhinum majus</i> Early Potomac™ F₁ Series | 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. | Greenhouse , Support: Required (day) 70-85°F (21-29°C) (night) 55-60°F (13-16°C) 10-12 plants/ft² (108-129 plants/m²), 10-14 weeks Tunnel , Support: Required (day) 70-85°F (21-29°C) (night) 55-60°F (13-16°C) 10-12 plants/ft² (108-129 plants/m²), 10-14 weeks |
| SNAPDRAGON <i>Antirrhinum majus</i> Maryland F₁ Series | 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 2. | Greenhouse , Support: Required (day) 55-70°F (13-21°C) (night) 50-55°F (10-13°C) 8-10 plants/ft² (86-108 plants/m²), 12-18 weeks Tunnel , Support: Required (day) 55-70°F (13-21°C) (night) 50-55°F (10-13°C) 8-10 plants/ft² (86-108 plants/m²), 12-18 weeks |
| SNAPDRAGON <i>Antirrhinum majus</i> Monaco F₁ Series | 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. | Greenhouse , Support: Required (day) 60-75°F (16-24°C) (night) 50-55°F (10-13°C) 8-10 plants/ft² (86-108 plants/m²), 14-18 weeks Tunnel , Support: Required (day) 60-75°F (16-24°C) (night) 50-55°F (10-13°C) 8-10 plants/ft² (86-108 plants/m²), 14-18 weeks |
| SNAPDRAGON <i>Antirrhinum majus</i> Potomac™ F₁ Series | 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. | Greenhouse , Support: Required (day) 75-85°F (24-29°C) (night) 60°F (16°C) 10-12 plants/ft² (108-129 plants/m²), 8-12 weeks Tunnel , Support: Required (day) 75-85°F (24-29°C) (night) 60°F (16°C) 10-12 plants/ft² (108-129 plants/m²), 8-12 weeks |
| SNAPDRAGON <i>Antirrhinum majus</i> Purple Twist F₁ | 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. | Greenhouse , Support: Required (day) 50-55°F (10-13°C) (night) 45-50°F (7-10°C) 8-10 plants/ft² (86-108 plants/m²), 15-18 weeks Tunnel , Support: Required (day) 50-55°F (10-13°C) (night) 45-50°F (7-10°C) 8-10 plants/ft² (86-108 plants/m²), 15-18 weeks |
| TRACHELIUM <i>Trachelium caeruleum</i> Lake Series | Obligate Long Day Trachelium needs 16-hour daylength. | Greenhouse , Support: Recommended (day) 60-78°F (16-26°C) (night) 52-68°F (11-20°C) 1 plants/ft² (11 plants/m²), 10-14 weeks |

| RECOMMENDED PLUG SIZE | STEM LENGTH | KEY TIPS |
|-----------------------|-----------------------|--|
| 288 | 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. |
| 288 | 24-32 in. (61-81 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. |
| 406 | 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. 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 in. (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. |
| 406 | 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 in. (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. |
| 406 | 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. 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 in. (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. |
| 406 | 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 in. (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. |
| 406 | 39-60 in. (99-152 cm) | 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 in. (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. |
| 406 | 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 in. (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 standalone Group 1,2 variety can be produced along with the Maryland series. |
| 288 | 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. |

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KITCHEN MINIS..... PROPAGATION GUIDE P. 168 / FINISHING GUIDE P. 172



| CLASS/SERIES | SEED FORM | RECOMMENDED PLUG SIZE | PLUG CROP WEEKS | SEEDS/ CELL | COVER SEED | DAYS FROM 50% TO MAXIMUM GERMINATION | INITIAL MEDIA PH/EC (1:2) | STAGE 1 |
|---|-----------|-----------------------|-----------------|-------------|-------------|--------------------------------------|---------------------------------|---|
| CUCUMBER <i>Cucumis sativus</i> Gherking F₁ | 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) |
| CUCUMBER <i>Cucumis sativus</i> Martini F₁ | 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) |
| CUCUMBER <i>Cucumis sativus</i> Patio Snacker F₁ | 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) |
| EGGPLANT <i>Solanum melongena</i> Asian Delite F₁ | 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) |
| EGGPLANT <i>Solanum melongena</i> Fairy Tale F₁ | 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) |
| EGGPLANT <i>Solanum melongena</i> Gretel F₁ | 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) |
| EGGPLANT <i>Solanum melongena</i> Hansel F₁ | 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) |
| EGGPLANT <i>Solanum melongena</i> Patio Baby F₁ | 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) |
| HERB (BASIL) <i>Ocimum basilicum</i> Dolce Fresca | RAW | 288 | 3-5 | 6-10 | 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) |
| HERB (BASIL) <i>Ocimum basilicum</i> Everleaf Emerald Towers | RAW | 288 | 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) |
| HERB (BASIL) <i>Ocimum basilicum</i> Everleaf Genovese | RAW | 288 | 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) |
| HERB (BASIL) <i>Ocimum basilicum</i> Everleaf Thai Towers | RAW | 288 | 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) |

| STAGE 2 | STAGE 3 | STAGE 4 | KEY TIPS |
|---|---|---|--|
| (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. |
| (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. |
| (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. |
| (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. |
| (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. |
| (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. |
| (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 rate of 2.5 to 5 ppm can be applied at 2 weeks after sowing for height control. Repeat 2 weeks later if needed. |
| (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. |
| (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. |
| (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. |
| (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. |

(m) moisture (t) temperature (l) light (f) fertilizer (p) plant growth regulators

| CLASS/SERIES | SEED FORM | RECOMMENDED PLUG SIZE | PLUG CROP WEEKS | SEEDS/ CELL | COVER SEED | DAYS FROM 50% TO MAXIMUM GERMINATION | INITIAL MEDIA PH/EC (1:2) | STAGE 1 |
|---|-----------|-----------------------|-----------------|-------------|-------------|--------------------------------------|-----------------------------|---|
| HERB (BASIL) <i>Ocimum basilicum</i> Newton | RAW | 288 | 3-5 | 6-10 | 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) |
| HERB (BASIL) <i>Ocimum basilicum</i> Purple Ruffles | 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) |
| HERB (DILL) <i>Anethum graveolens</i> Fernleaf | 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) |
| HERB (SIMPLYHERBS™) <i>Ocimum basilicum</i> Basil | 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) |
| HERB (SIMPLYHERBS™) <i>Petroselinum crispum</i> Curled Parsley | 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) |
| HERB (SIMPLYHERBS™) <i>Anethum graveolens</i> Dill | 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) |
| HERB (SIMPLYHERBS™) <i>Petroselinum crispum</i> Large-Leaf Italian Flat Leaf Parsley | 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) |
| HERB (SIMPLYHERBS™) <i>Origanum vulgare</i> Oregano | 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) |
| HERB (SIMPLYHERBS™) <i>Rosmarinus officinalis</i> Rosemary | 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) |
| HERB (SIMPLYHERBS™) <i>Salvia officinalis</i> Sage | 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) |
| HERB (SIMPLYHERBS™) <i>Thymus vulgaris</i> Thyme | 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) |
| HERB (SIMPLYHERBS™) <i>Ocimum basilicum</i> Try Basil | 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) |
| PEPPER <i>Capsicum baccatum</i> Aji Rico F. | 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) |

| STAGE 2 | STAGE 3 | STAGE 4 | KEY TIPS |
|---|---|---|--|
| (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. |
| (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. |
| (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. |
| (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. |
| (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. |
| (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. |
| (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. |
| (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. |
| (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. |
| (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. |
| (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. |
| (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. |
| (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 the rate of 2.5 to 5 ppm can be applied at 2 weeks after sowing for height control. Repeat 2 weeks later if needed. |

(m) moisture (t) temperature (l) light (f) fertilizer (p) plant growth regulators

| CLASS/SERIES | SEED FORM | RECOMMENDED PLUG SIZE | PLUG CROP WEEKS | SEEDS/ CELL | COVER SEED | DAYS FROM 50% TO MAXIMUM GERMINATION | INITIAL MEDIA PH/EC (1:2) | STAGE 1 |
|--|-----------|-----------------------|-----------------|-------------|-------------|--------------------------------------|-----------------------------|---|
| PEPPER <i>Capsicum annuum</i> Cajun Belle | 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) |
| PEPPER <i>Capsicum annuum</i> Candy Cane Chocolate Cherry F₁ | 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) |
| PEPPER <i>Capsicum annuum</i> Candy Cane Red F₁ | 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) |
| PEPPER <i>Capsicum annuum</i> Golden Cayenne | 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) |
| PEPPER <i>Capsicum annuum</i> La Bomba II F₁ | 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) |
| PEPPER <i>Capsicum baccatum</i> Mad Hatter F₁ | 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) |
| PEPPER <i>Capsicum annuum</i> Peppi Cornissimo F₁ | 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) |
| PEPPER <i>Capsicum annuum</i> Peppi F₁ Series | 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) |
| PEPPER <i>Capsicum annuum</i> PeppiGrande Red F₁ | 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) |
| PEPPER <i>Capsicum annuum</i> Pot-a-peño F₁ | 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) |
| PEPPER <i>Capsicum chinense</i> Primero Red F₁ | 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) |

| CLASS/SERIES | SEED FORM | RECOMMENDED PLUG SIZE | PLUG CROP WEEKS | SEEDS/ CELL | COVER SEED | DAYS FROM 50% TO MAXIMUM GERMINATION | INITIAL MEDIA PH/EC (1:2) | STAGE 1 |
|--|-----------|-----------------------|-----------------|-------------|-------------|--------------------------------------|-----------------------------|---|
| PEPPER <i>Capsicum annuum</i> Snackabelle Red F₁ | 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) |
| PEPPER <i>Capsicum annuum</i> Sweet Heat F₁ | 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) |
| PEPPER <i>Capsicum annuum</i> Trailblazer F₁ | 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) |
| SIMPLYSALAD® Alfresco Mixture | 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) |
| SIMPLYSALAD® <i>Eruca sativa</i> Arugula | 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) |
| SIMPLYSALAD® City Garden Mixture | 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) |
| SIMPLYSALAD® Global Gourmet Mixture | 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) |
| SIMPLYSALAD® <i>Brassica oleracea</i> Kale Storm Mixture | 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) |
| SIMPLYSALAD® <i>Brassica sp.</i> Pro San Mixture | PMPL | 128 | 2-3 | 1 | Optional | 2-3 | 5.8-6.2 pH 0.75 mmhos/cm | (m) Level 4-5 (t) 65-73°F (18-23°C) (l) Optional (f) Less than 100 ppm N (Less than 0.7 EC) |
| SIMPLYSALAD® <i>Brassica sp.</i> Pro Tatu Mixture | PMPL | 128 | 2-3 | 1 | Optional | 2-3 | 5.8-6.2 pH 0.75 mmhos/cm | (m) Level 4-5 (t) 65-73°F (18-23°C) (l) Optional (f) Less than 100 ppm N (Less than 0.7 EC) |
| SIMPLYSALAD® Summer Picnic Mixture | 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) |
| SIMPLYSALAD® Wonder Wok Mixture | 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) |

| STAGE 2 | STAGE 3 | STAGE 4 | KEY TIPS |
|---|---|---|--|
| (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 the rate of 2.5 to 5 ppm can be applied at 2 weeks after sowing for height control. Repeat 2 weeks later if needed. |
| (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 the rate of 2.5 to 5 ppm can be applied at 2 weeks after sowing for height control. Repeat 2 weeks later if needed. |
| (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 the rate of 2.5 to 5 ppm can be applied at 2 weeks after sowing for height control. Repeat 2 weeks later if needed. |
| (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. |
| (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. |
| (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. |
| (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. |
| (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. |
| (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® Pro San will develop darker colours in cool temperatures and higher 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) 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) 62-65°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® Pro Tatu will develop darker colours in cool temperatures and higher 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) 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. |
| (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. |

(m) moisture (t) temperature (l) light (f) fertilizer (p) plant growth regulators

| CLASS/SERIES | SEED FORM | RECOMMENDED PLUG SIZE | PLUG CROP WEEKS | SEEDS/ CELL | COVER SEED | DAYS FROM 50% TO MAXIMUM GERMINATION | INITIAL MEDIA PH/EC (1:2) | STAGE 1 |
|---|-----------|-----------------------|-----------------|-------------|-------------|--------------------------------------|-----------------------------|---|
| SQUASH <i>Cucurbita moschata</i> Autumn Frost F₁ | RAW | Direct sow 72 | 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) |
| SQUASH <i>Cucurbita moschata</i> Butterbaby | RAW | Direct sow 72 | 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) |
| SQUASH <i>Cucurbita pepo</i> Easy Pick F₁ Series | RAW | Direct sow 72 | 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) |
| SQUASH <i>Cucurbita moschata</i> Honeynut | RAW | Direct sow 72 | 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) |
| SQUASH <i>Cucurbita pepo</i> Lemon Sun F₁ | RAW | Direct sow 72 | 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) |
| STRAWBERRY <i>Fragaria x ananassa</i> Fresca | 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) |
| TOMATO <i>Solanum lycopersicum</i> Artemis F₁ | RAW | 288 | 3-4 | 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) |
| TOMATO <i>Solanum lycopersicum</i> Bellatrix F₁ | RAW | 288 | 3-4 | 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) |
| TOMATO <i>Solanum lycopersicum</i> BlushingStar F₁ | RAW | 288 | 3-4 | 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) |
| TOMATO <i>Solanum lycopersicum</i> Candyland Red | RAW | 288 | 3-4 | 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) |
| TOMATO <i>Solanum lycopersicum</i> Chocolate Sprinkles F₁ | RAW | 288 | 3-4 | 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) |
| TOMATO <i>Solanum lycopersicum</i> DarkStar F₁ | RAW | 288 | 3-4 | 1 | Light cover | 2-3 | 5.5-5.8 pH 0.5 mmhos/cm | (m) Level 4 (t) 70-75°F (21-24°C) (f) Less than 100 ppm N (Less than 0.7 EC) |

| STAGE 2 | STAGE 3 | STAGE 4 | KEY TIPS |
|---|---|---|--|
| (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. |
| (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. |
| (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. |
| (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. |
| (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. |
| (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. |
| (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 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. |
| (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 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. |
| (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 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. |
| (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 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. |
| (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 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. |

(m) moisture (t) temperature (l) light (f) fertilizer (p) plant growth regulators

| CLASS/SERIES | SEED FORM | RECOMMENDED PLUG SIZE | PLUG CROP WEEKS | SEEDS/ CELL | COVER SEED | DAYS FROM 50% TO MAXIMUM GERMINATION | INITIAL MEDIA PH/EC (1:2) | STAGE 1 |
|--|-----------|-----------------------|-----------------|-------------|-------------|--------------------------------------|----------------------------|---|
| TOMATO <i>Solanum lycopersicum</i> Heirloom Marriage™ Big Brandy F₁ | RAW | 288 | 3-4 | 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) |
| TOMATO <i>Solanum lycopersicum</i> Heirloom Marriage™ Cherokee Carbon F₁ | RAW | 288 | 3-4 | 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) |
| TOMATO <i>Solanum lycopersicum</i> Heirloom Marriage™ Genuwine F₁ | RAW | 288 | 3-4 | 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) |
| TOMATO <i>Solanum lycopersicum</i> Heirloom Marriage™ Marzineria F₁ | RAW | 288 | 3-4 | 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) |
| TOMATO <i>Solanum lycopersicum</i> Heirloom Marriage™ Perfect Flame F₁ | RAW | 288 | 3-4 | 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) |
| TOMATO <i>Solanum lycopersicum</i> Helix F₁ | RAW | 288 | 3-4 | 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) |
| TOMATO <i>Solanum lycopersicum</i> Homeslice F₁ | RAW | 288 | 3-4 | 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) |
| TOMATO <i>Solanum lycopersicum</i> Little Bing F₁ | RAW | 288 | 3-4 | 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) |
| TOMATO <i>Solanum lycopersicum</i> Little Napoli F₁ | RAW | 288 | 3-4 | 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) |
| TOMATO <i>Solanum lycopersicum</i> Little Sicily F₁ | RAW | 288 | 3-4 | 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) |
| TOMATO <i>Solanum lycopersicum</i> Loki F₁ | RAW | 288 | 3-4 | 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) |

| CLASS/SERIES | SEED FORM | RECOMMENDED PLUG SIZE | PLUG CROP WEEKS | SEEDS/ CELL | COVER SEED | DAYS FROM 50% TO MAXIMUM GERMINATION | INITIAL MEDIA PH/EC (1:2) | STAGE 1 |
|--|-----------|-----------------------|-----------------|-------------|-------------|--------------------------------------|----------------------------|---|
| TOMATO <i>Solanum lycopersicum</i> Marzito F₁ | RAW | 288 | 3-4 | 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) |
| TOMATO <i>Solanum lycopersicum</i> Midnight Snack F₁ | RAW | 288 | 3-4 | 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) |
| TOMATO <i>Solanum lycopersicum</i> Orange Zinger F₁ | RAW | 288 | 3-4 | 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) |
| TOMATO <i>Solanum lycopersicum</i> Stellar F₁ | RAW | 288 | 3-4 | 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) |
| TOMATO <i>Solanum lycopersicum</i> Sugar Rush F₁ | RAW | 288 | 3-4 | 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) |
| TOMATO <i>Solanum lycopersicum</i> Sun Dipper F₁ | RAW | 288 | 3-4 | 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) |
| TOMATO <i>Solanum lycopersicum</i> Sunrise Sauce F₁ | RAW | 288 | 3-4 | 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) |
| TOMATO <i>Solanum lycopersicum</i> Tidy Treats F₁ | RAW | 288 | 3-4 | 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) |
| TOMATO <i>Solanum lycopersicum</i> Topsy Tom F₁ | RAW | 288 | 3-4 | 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) |
| TOMATO <i>Solanum lycopersicum</i> Tumbler F₁ | RAW | 288 | 3-4 | 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) |

| CLASS/SERIES | RECOMMENDED PLUG SIZE | GROWING ON TEMPERATURE (DAYS/NIGHTS) | TARGET MEDIA PH/EC (1:2) |
|---|-----------------------|--|----------------------------|
| CUCUMBER <i>Cucumis sativus</i> Gherking F₁ | 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 |
| CUCUMBER <i>Cucumis sativus</i> Martini F₁ | 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 |
| CUCUMBER <i>Cucumis sativus</i> Patio Snacker F₁ | 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 |
| EGGPLANT <i>Solanum melongena</i> Asian Delite F₁ | 288 | (day) 60-70°F (16-21°C) (night) 55-60°F (13-16°C) | 5.5-6.2 pH 1.0 mmhos/cm |
| EGGPLANT <i>Solanum melongena</i> Fairy Tale F₁ | 288 | (day) 60-70°F (16-21°C) (night) 55-60°F (13-16°C) | 5.5-6.2 pH 1.0 mmhos/cm |
| EGGPLANT <i>Solanum melongena</i> Gretel F₁ | 288 | (day) 60-70°F (16-21°C) (night) 55-60°F (13-16°C) | 5.5-6.2 pH 1.0 mmhos/cm |
| EGGPLANT <i>Solanum melongena</i> Hansel F₁ | 288 | (day) 60-70°F (16-21°C) (night) 55-60°F (13-16°C) | 5.5-6.2 pH 1.0 mmhos/cm |
| EGGPLANT <i>Solanum melongena</i> Patio Baby F₁ | 288 | (day) 60-70°F (16-21°C) (night) 55-60°F (13-16°C) | 5.5-6.2 pH 1.0 mmhos/cm |
| HERB (BASIL) <i>Ocimum basilicum</i> Dolce Fresca | 288 | (day) 65-70°F (18-21°C) (night) 62-65°F (17-18°C) | 5.5-6.2 pH 1.0 mmhos/cm |
| HERB (BASIL) <i>Ocimum basilicum</i> Everleaf Emerald Towers | 288 | (day) 65-70°F (18-21°C) (night) 62-65°F (17-18°C) | 5.5-6.2 pH 1.0 mmhos/cm |
| HERB (BASIL) <i>Ocimum basilicum</i> Everleaf Genovese | 288 | (day) 65-70°F (18-21°C) (night) 62-65°F (17-18°C) | 5.5-6.2 pH 1.0 mmhos/cm |
| HERB (BASIL) <i>Ocimum basilicum</i> Everleaf Thai Towers | 288 | (day) 65-70°F (18-21°C) (night) 62-65°F (17-18°C) | 5.5-6.2 pH 1.0 mmhos/cm |
| HERB (BASIL) <i>Ocimum basilicum</i> Newton | 288 | (day) 65-70°F (18-21°C) (night) 62-65°F (17-18°C) | 5.5-6.2 pH 1.0 mmhos/cm |
| HERB (BASIL) <i>Ocimum basilicum</i> Purple Ruffles | 406 | (day) 65-70°F (18-21°C) (night) 62-65°F (17-18°C) | 5.5-6.2 pH 1.0 mmhos/cm |
| HERB (DILL) <i>Anethum graveolens</i> Fernleaf | 288 | (day) 60-65°F (16-18°C) (night) 55-60°F (13-16°C) | 5.5-6.2 pH 1.0 mmhos/cm |
| HERB (SIMPLYHERBS™) <i>Ocimum basilicum</i> Basil | 288 | (day) 65-70°F (18-21°C) (night) 62-65°F (17-18°C) | 5.5-6.2 pH 1.0 mmhos/cm |
| HERB (SIMPLYHERBS™) <i>Petroselinum crispum</i> Curled Parsley | 288 | (day) 65-70°F (18-21°C) (night) 60-65°F (16-18°C) | 5.5-6.2 pH 1.0 mmhos/cm |
| HERB (SIMPLYHERBS™) <i>Anethum graveolens</i> Dill | 288 | (day) 60-65°F (16-18°C) (night) 55-60°F (13-16°C) | 5.5-6.2 pH 1.0 mmhos/cm |
| HERB (SIMPLYHERBS™) <i>Petroselinum crispum</i> Large-Leaf Italian Flat Leaf Parsley | 288 | (day) 65-70°F (18-21°C) (night) 60-65°F (16-18°C) | 5.5-6.2 pH 1.0 mmhos/cm |

| FINISHING PROGRAMS | KEY TIPS |
|--|---|
| Cell Pack , 1-2 (ppp), 2-3 (weeks), Spring 4"/4.5"/Quart/10 cm , 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. |
| Cell Pack , 1-2 (ppp), 2-3 (weeks), Spring 4"/4.5"/Quart/10 cm , 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. |
| Cell Pack , 1-2 (ppp), 2-3 (weeks), Spring 4"/4.5"/Quart/10 cm , 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. |
| Cell Pack , 1 (ppp), 4-5 (weeks), Spring 4"/4.5"/Quart/10 cm , 1 (ppp), 4-5 (weeks), Spring 5"/6"/1 Gallon/15 cm , 1 (ppp), 5-7 (weeks), Spring | |
| Cell Pack , 1 (ppp), 4-5 (weeks), Spring 4"/4.5"/Quart/10 cm , 1 (ppp), 4-5 (weeks), Spring 5"/6"/1 Gallon/15 cm , 1 (ppp), 5-7 (weeks), Spring | Performs well in-ground and in containers, with or without support. |
| Cell Pack , 1 (ppp), 4-5 (weeks), Spring 4"/4.5"/Quart/10 cm , 1 (ppp), 4-5 (weeks), Spring 5"/6"/1 Gallon/15 cm , 1 (ppp), 5-7 (weeks), Spring | Performs well in-ground and in containers, with or without support. |
| Cell Pack , 1 (ppp), 4-5 (weeks), Spring 4"/4.5"/Quart/10 cm , 1 (ppp), 4-5 (weeks), Spring 5"/6"/1 Gallon/15 cm , 1 (ppp), 5-7 (weeks), Spring | Performs well in-ground and in containers, with or without support. |
| Cell Pack , 1 (ppp), 4-5 (weeks), Spring 4"/4.5"/Quart/10 cm , 1 (ppp), 4-5 (weeks), Spring 5"/6"/1 Gallon/15 cm , 1 (ppp), 5-7 (weeks), Spring | Performs well in-ground and in containers. |
| Cell Pack , 1 (ppp), 3-4 (weeks), Spring 4"/4.5"/Quart/10 cm , 1 (ppp), 3-4 (weeks), Spring 5"/6"/1 Gallon/15 cm , 1-3 (ppp), 4-5 (weeks), Spring | Seed can be directly sown into finish containers |
| Cell Pack , 1 (ppp), 3-4 (weeks), Spring 4"/4.5"/Quart/10 cm , 1 (ppp), 3-4 (weeks), Spring 5"/6"/1 Gallon/15 cm , 1-3 (ppp), 4-5 (weeks), Spring | Seed can be directly sown into finish containers. |
| Cell Pack , 1 (ppp), 3-4 (weeks), Spring 4"/4.5"/Quart/10 cm , 1 (ppp), 3-4 (weeks), Spring 5"/6"/1 Gallon/15 cm , 1 (ppp), 4-5 (weeks), Spring | Seed can be directly sown into finish containers. |
| Cell Pack , 1 (ppp), 3-4 (weeks), Spring 4"/4.5"/Quart/10 cm , 1 (ppp), 3-4 (weeks), Spring 5"/6"/1 Gallon/15 cm , 1 (ppp), 4-5 (weeks), Spring | Seed can be directly sown into finish containers. |
| Cell Pack , 1 (ppp), 3-4 (weeks), Spring 4"/4.5"/Quart/10 cm , 1 (ppp), 3-4 (weeks), Spring 5"/6"/1 Gallon/15 cm , 1-3 (ppp), 4-5 (weeks), Spring | Seed can be directly sown into finish containers. |
| Cell Pack , 1 (ppp), 3-4 (weeks), Spring 4"/4.5"/Quart/10 cm , 1 (ppp), 3-4 (weeks), Spring 5"/6"/1 Gallon/15 cm , 1-3 (ppp), 4-5 (weeks), Spring | Seed can be directly sown into finish containers. |
| Cell Pack , 1 (ppp), 3-4 (weeks), Spring 4"/4.5"/Quart/10 cm , 1 (ppp), 3-4 (weeks), Spring | Can be directly sown into final container. |
| Cell Pack , 1 (ppp), 4-5 (weeks), Spring 4"/4.5"/Quart/10 cm , 1 (ppp), 4-5 (weeks), Spring | Can be directly sown into final container. |
| Cell Pack , 1 (ppp), 3-4 (weeks), Spring 4"/4.5"/Quart/10 cm , 1 (ppp), 3-4 (weeks), Spring | Can be directly sown into final container. |
| Cell Pack , 1 (ppp), 4-5 (weeks), Spring 4"/4.5"/Quart/10 cm , 1 (ppp), 4-5 (weeks), Spring | Can be directly sown into final container. |

| CLASS/SERIES | RECOMMENDED PLUG SIZE | GROWING ON TEMPERATURE (DAYS/NIGHTS) | TARGET MEDIA PH/EC (1:2) |
|--|-----------------------|--|---------------------------------|
| HERB (SIMPLYHERBS™) <i>Origanum vulgare</i> Oregano | 288 | (day) 60-65°F (16-18°C) (night) 50-55°F (10-13°C) | 5.5-6.2 pH 1.0 mmhos/cm |
| HERB (SIMPLYHERBS™) <i>Rosmarinus officinalis</i> Rosemary | 288 | (day) 60-65°F (16-18°C) (night) 55-60°F (13-16°C) | 5.5-6.2 pH 1.0 mmhos/cm |
| HERB (SIMPLYHERBS™) <i>Salvia officinalis</i> Sage | 288 | (day) 65-70°F (18-21°C) (night) 60-65°F (16-18°C) | 5.5-6.2 pH 1.0 mmhos/cm |
| HERB (SIMPLYHERBS™) <i>Thymus vulgaris</i> Thyme | 288 | (day) 65-70°F (18-21°C) (night) 55-60°F (13-16°C) | 5.5-6.2 pH 1.0 mmhos/cm |
| HERB (SIMPLYHERBS™) <i>Ocimum basilicum</i> Try Basil | 288 | (day) 65-70°F (18-21°C) (night) 62-65°F (17-18°C) | 5.5-6.2 pH 1.0 mmhos/cm |
| PEPPER <i>Capsicum baccatum</i> Aji Rico F₁ | 288 | (day) 68-80°F (20-27°C) (night) 65-70°F (18-21°C) | 5.5-6.2 pH 1.0 mmhos/cm |
| PEPPER <i>Capsicum annuum</i> Cajun Belle | 288 | (day) 68-80°F (20-27°C) (night) 65-70°F (18-21°C) | 5.5-6.2 pH 1.0 mmhos/cm |
| PEPPER <i>Capsicum annuum</i> Candy Cane Chocolate Cherry F₁ | 288 | (day) 68-80°F (20-27°C) (night) 65-70°F (18-21°C) | 5.5-6.2 pH 1.0 mmhos/cm |
| PEPPER <i>Capsicum annuum</i> Candy Cane Red F₁ | 288 | (day) 68-80°F (20-27°C) (night) 65-70°F (18-21°C) | 5.5-6.2 pH 1.0 mmhos/cm |
| PEPPER <i>Capsicum annuum</i> Golden Cayenne | 288 | (day) 68-80°F (20-27°C) (night) 65-70°F (18-21°C) | 5.5-6.2 pH 1.0 mmhos/cm |
| PEPPER <i>Capsicum annuum</i> La Bomba II F₁ | 288 | (day) 68-80°F (20-27°C) (night) 65-70°F (18-21°C) | 5.5-6.2 pH 1.0 mmhos/cm |
| PEPPER <i>Capsicum baccatum</i> Mad Hatter F₁ | 288 | (day) 68-80°F (20-27°C) (night) 65-70°F (18-21°C) | 5.5-6.2 pH 1.0 mmhos/cm |
| PEPPER <i>Capsicum annuum</i> Peppi Cornissimo F₁ | 288 | (day) 68-80°F (20-27°C) (night) 65-70°F (18-21°C) | 5.5-6.2 pH 0.75-1.0 mmhos/cm |
| PEPPER <i>Capsicum annuum</i> Peppi F₁ Series | 288 | (day) 68-80°F (20-27°C) (night) 65-70°F (18-21°C) | 5.5-6.2 pH 0.75-1.0 mmhos/cm |
| PEPPER <i>Capsicum annuum</i> PeppiGrande Red F₁ | 288 | (day) 68-80°F (20-27°C) (night) 65-70°F (18-21°C) | 5.5-6.2 pH 0.75-1.0 mmhos/cm |
| PEPPER <i>Capsicum annuum</i> Pot-a-peño F₁ | 288 | (day) 68-80°F (20-27°C) (night) 65-70°F (18-21°C) | 5.5-6.2 pH 1.0 mmhos/cm |
| PEPPER <i>Capsicum chinense</i> Primero Red F₁ | 288 | (day) 68-80°F (20-27°C) (night) 65-70°F (18-21°C) | 5.5-6.2 pH 1.0 mmhos/cm |
| PEPPER <i>Capsicum annuum</i> Snackabelle Red F₁ | 288 | (day) 68-80°F (20-27°C) (night) 65-70°F (18-21°C) | 5.5-6.2 pH 1.0 mmhos/cm |
| PEPPER <i>Capsicum annuum</i> Sweet Heat F₁ | 288 | (day) 68-80°F (20-27°C) (night) 65-70°F (18-21°C) | 5.5-6.2 pH 1.0 mmhos/cm |

| FINISHING PROGRAMS | KEY TIPS |
|---|--|
| Cell Pack , 1 (ppp), 3-4 (weeks), Spring 4"/4.5"/Quart/10 cm , 1 (ppp), 4-5 (weeks), Spring | Can be directly sown into final container. |
| Cell Pack , 1 (ppp), 4-5 (weeks), Spring 4"/4.5"/Quart/10 cm , 1 (ppp), 4-5 (weeks), Spring | Can be directly sown into final container. |
| Cell Pack , 1 (ppp), 3-4 (weeks), Spring 4"/4.5"/Quart/10 cm , 1 (ppp), 3-4 (weeks), Spring | Can be directly sown into final container. |
| Cell Pack , 1 (ppp), 4-5 (weeks), Spring 4"/4.5"/Quart/10 cm , 1 (ppp), 4-5 (weeks), Spring | Can be directly sown into final container. |
| Cell Pack , 1 (ppp), 3-4 (weeks), Spring 4"/4.5"/Quart/10 cm , 1 (ppp), 3-4 (weeks), Spring | Can be directly sown into final container. |
| Cell Pack , 1 (ppp), 4-6 (weeks), Spring 4"/4.5"/Quart/10 cm , 1 (ppp), 4-6 (weeks), Spring 5"/6"/1 Gallon/15 cm , 1 (ppp), 5-7 (weeks), Spring | Large plant habit. Performs best when grown in-ground and with support. |
| Cell Pack , 1 (ppp), 4-6 (weeks), Spring 4"/4.5"/Quart/10 cm , 1 (ppp), 4-6 (weeks), Spring 5"/6"/1 Gallon/15 cm , 1 (ppp), 5-7 (weeks), Spring | Performs well in-ground or in a small container, with or without support. |
| Cell Pack , 0-1 (ppp), 4-6 (weeks), Spring 4"/4.5"/Quart/10 cm , 0-1 (ppp), 4-6 (weeks), Spring 5"/6"/1 Gallon/15 cm , 0-1 (ppp), 5-7 (weeks), Spring | Performs well in-ground or in a medium container, with support. |
| Cell Pack , 1 (ppp), 4-6 (weeks), Spring 4"/4.5"/Quart/10 cm , 1 (ppp), 4-6 (weeks), Spring 5"/6"/1 Gallon/15 cm , 1 (ppp), 5-7 (weeks), Spring | Performs well in-ground or in a medium container, with or without support. |
| Cell Pack , 1 (ppp), 4-6 (weeks), Spring 4"/4.5"/Quart/10 cm , 1 (ppp), 4-6 (weeks), Spring 5"/6"/1 Gallon/15 cm , 1 (ppp), 5-7 (weeks), Spring | Performs well in-ground or in a medium container, with or without support. |
| Cell Pack , 1 (ppp), 4-6 (weeks), Spring 4"/4.5"/Quart/10 cm , 1 (ppp), 4-6 (weeks), Spring 5"/6"/1 Gallon/15 cm , 1 (ppp), 5-7 (weeks), Spring | Performs well in-ground or in a container, with or without support. |
| Cell Pack , 1 (ppp), 4-6 (weeks), Spring 4"/4.5"/Quart/10 cm , 1 (ppp), 4-6 (weeks), Spring 5"/6"/1 Gallon/15 cm , 1 (ppp), 5-7 (weeks), Spring | Large habit. Performs best when grown in-ground and with support. |
| 4"/4.5"/Quart/10 cm , 1 (ppp), 4-6 (weeks), Spring Field grown , 1 (ppp), 12-13 (weeks), Spring | Large habit. Performs best when grown in-ground and with support. |
| 4"/4.5"/Quart/10 cm , 1 (ppp), 4-6 (weeks), Spring Field grown , 1 (ppp), 11-12 (weeks), Spring | Large habit. Performs best when grown in-ground and with support. |
| 4"/4.5"/Quart/10 cm , 1 (ppp), 4-6 (weeks), Spring Field grown , 1 (ppp), 12-13 (weeks), Spring | Large habit. Performs best when grown in-ground and with support. |
| Cell Pack , 1 (ppp), 4-6 (weeks), Spring 4"/4.5"/Quart/10 cm , 1 (ppp), 4-6 (weeks), Spring 10" Pot or HB/3 Gallon/25 cm , 1-3 (ppp), 8-10 (weeks), Spring | Performs well in-ground or in a medium container, with or without support. |
| Cell Pack , 1 (ppp), 4-6 (weeks), Spring 4"/4.5"/Quart/10 cm , 1 (ppp), 4-6 (weeks), Spring 5"/6"/1 Gallon/15 cm , 1 (ppp), 5-7 (weeks), Spring | Large habit. Performs best when grown in-ground and with support. |
| Cell Pack , 1 (ppp), 4-6 (weeks), Spring 4"/4.5"/Quart/10 cm , 1 (ppp), 4-6 (weeks), Spring 5"/6"/1 Gallon/15 cm , 1 (ppp), 5-7 (weeks), Spring | Performs well in-ground or in a medium container, with or without support. |
| Cell Pack , 1 (ppp), 4-6 (weeks), Spring 4"/4.5"/Quart/10 cm , 1 (ppp), 4-6 (weeks), Spring 5"/6"/1 Gallon/15 cm , 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 (1:2) |
|--|-----------------------|--|---------------------------------|
| PEPPER <i>Capsicum annuum</i> Trailblazer F₁ | 288 | (day) 68-80°F (20-27°C) (night) 65-70°F (18-21°C) | 5.5-6.2 pH 1.0 mmhos/cm |
| SIMPLYSALAD® Alfresco Mixture | 128 | (day) 62-70°F (17-21°C) (night) 56-61°F (13-16°C) | 5.8-6.2 pH 0.75 mmhos/cm |
| SIMPLYSALAD® <i>Eruca sativa</i> Arugula | 128 | (day) 62-70°F (17-21°C) (night) 56-61°F (13-16°C) | 5.8-6.2 pH 0.75 mmhos/cm |
| SIMPLYSALAD® City Garden Mixture | 128 | (day) 62-70°F (17-21°C) (night) 56-61°F (13-16°C) | 5.8-6.2 pH 0.75 mmhos/cm |
| SIMPLYSALAD® Global Gourmet Mixture | 128 | (day) 62-70°F (17-21°C) (night) 56-61°F (13-16°C) | 5.8-6.2 pH 0.75 mmhos/cm |
| SIMPLYSALAD® <i>Brassica oleracea</i> Kale Storm Mixture | 128 | (day) 62-70°F (17-21°C) (night) 56-61°F (13-16°C) | 5.8-6.2 pH 0.75 mmhos/cm |
| SIMPLYSALAD® <i>Brassica sp.</i> Pro San Mixture | 128 | (day) 62-70°F (17-21°C) (night) 56-61°F (13-16°C) | 5.8-6.2 pH 0.75-1.0 mmhos/cm |
| SIMPLYSALAD® <i>Brassica sp.</i> Pro Tatu Mixture | 128 | (day) 62-70°F (17-21°C) (night) 56-61°F (13-16°C) | 5.8-6.2 pH 0.75-1.0 mmhos/cm |
| SIMPLYSALAD® Summer Picnic Mixture | 128 | (day) 62-70°F (17-21°C) (night) 56-61°F (13-16°C) | 5.8-6.2 pH 0.75 mmhos/cm |
| SIMPLYSALAD® Wonder Wok Mixture | 128 | (day) 62-70°F (17-21°C) (night) 56-61°F (13-16°C) | 5.8-6.2 pH 0.75 mmhos/cm |
| SQUASH <i>Cucurbita moschata</i> Autumn Frost F₁ | Direct sow 72 | (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 |
| SQUASH <i>Cucurbita moschata</i> Butterbaby | Direct sow 72 | (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 |
| SQUASH <i>Cucurbita pepo</i> Easy Pick F₁ Series | Direct sow 72 | (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 |
| SQUASH <i>Cucurbita moschata</i> Honeynut | Direct sow 72 | (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 |
| SQUASH <i>Cucurbita pepo</i> Lemon Sun F₁ | Direct sow 72 | (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 |
| STRAWBERRY <i>Fragaria x ananassa</i> Fresca | 288 | (day) 60-65°F (16-18°C) (night) 60-62°F (16-17°C) | 6.5-7.5 pH 1.0 mmhos/cm |

| FINISHING PROGRAMS | KEY TIPS |
|---|---|
| <p>Cell Pack, 1 (ppp), 4-6 (weeks), Spring 4"/4.5"/Quart/10 cm, 1 (ppp), 4-6 (weeks), Spring 5"/6"/1 Gallon/15 cm, 1 (ppp), 5-7 (weeks), Spring</p> | <p>Performs well in-ground or in a large container, with support.</p> |
| <p>4"/4.5"/Quart/10 cm, 1 (ppp), 2-4 (weeks), Spring 8"/2 Gallon/20 cm, 3-4 (ppp), 2-4 (weeks), Spring 10" Pot or HB/3 Gallon/25 cm, 4-5 (ppp), 4-6 (weeks), Spring 12" Pot or HB/5 Gallon/30 cm, 5-6 (ppp), 4-6 (weeks), Spring</p> | <p>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.</p> |
| <p>4"/4.5"/Quart/10 cm, 1 (ppp), 2-3 (weeks), Spring 8"/2 Gallon/20 cm, 3-4 (ppp), 2-4 (weeks), Spring 10" Pot or HB/3 Gallon/25 cm, 4-5 (ppp), 4-6 (weeks), Spring 12" Pot or HB/5 Gallon/30 cm, 5-6 (ppp), 4-6 (weeks), Spring</p> | <p>Can be directly sown into final container. 30 to 45 days from transplant to harvest.</p> |
| <p>4"/4.5"/Quart/10 cm, 1 (ppp), 2-4 (weeks), Spring 8"/2 Gallon/20 cm, 3-4 (ppp), 2-4 (weeks), Spring 10" Pot or HB/3 Gallon/25 cm, 4-5 (ppp), 4-6 (weeks), Spring 12" Pot or HB/5 Gallon/30 cm, 5-6 (ppp), 4-6 (weeks), Spring</p> | <p>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.</p> |
| <p>4"/4.5"/Quart/10 cm, 1 (ppp), 2-4 (weeks), Spring 8"/2 Gallon/20 cm, 3-4 (ppp), 2-4 (weeks), Spring 10" Pot or HB/3 Gallon/25 cm, 4-5 (ppp), 4-6 (weeks), Spring 12" Pot or HB/5 Gallon/30 cm, 5-6 (ppp), 4-6 (weeks), Spring</p> | <p>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.</p> |
| <p>4"/4.5"/Quart/10 cm, 1 (ppp), 2-4 (weeks), Spring 8"/2 Gallon/20 cm, 3-4 (ppp), 2-4 (weeks), Spring 10" Pot or HB/3 Gallon/25 cm, 4-5 (ppp), 4-6 (weeks), Spring 12" Pot or HB/5 Gallon/30 cm, 5-6 (ppp), 4-6 (weeks), Spring</p> | <p>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.</p> |
| <p>4"/4.5"/Quart/10 cm, 1 (ppp), 2-3 (weeks), Spring 10" Pot or HB/3 Gallon/25 cm, 4-5 (ppp), 3-4 (weeks), Spring 12" Pot or HB/5 Gallon/30 cm, 5-6 (ppp), 3-4 (weeks), Spring 4"/4.5"/Quart/10 cm, 1 (ppp), 1-2 (weeks), Summer 10" Pot or HB/3 Gallon/25 cm, 4-5 (ppp), 2-3 (weeks), Summer 12" Pot or HB/5 Gallon/30 cm, 5-6 (ppp), 2-3 (weeks), Summer</p> | <p>Can be directly sown into final container and will reduce crop time by approximately 1 week. Coloured varieties develop pigment very quickly at cooler temperatures and under higher light. Can be grown in-ground after transplant stage.</p> |
| <p>4"/4.5"/Quart/10 cm, 1 (ppp), 2-3 (weeks), Spring 10" Pot or HB/3 Gallon/25 cm, 4-5 (ppp), 3-4 (weeks), Spring 12" Pot or HB/5 Gallon/30 cm, 5-6 (ppp), 3-4 (weeks), Spring 4"/4.5"/Quart/10 cm, 1 (ppp), 1-2 (weeks), Summer 10" Pot or HB/3 Gallon/25 cm, 4-5 (ppp), 2-3 (weeks), Summer 12" Pot or HB/5 Gallon/30 cm, 5-6 (ppp), 2-3 (weeks), Summer</p> | <p>Can be directly sown into final container and will reduce crop time by approximately 1 week. Coloured varieties develop pigment very quickly at cooler temperatures and under higher light. Can be grown in-ground after transplant stage.</p> |
| <p>4"/4.5"/Quart/10 cm, 1 (ppp), 2-4 (weeks), Spring 8"/2 Gallon/20 cm, 3-4 (ppp), 2-4 (weeks), Spring 10" Pot or HB/3 Gallon/25 cm, 4-5 (ppp), 4-6 (weeks), Spring 12" Pot or HB/5 Gallon/30 cm, 5-6 (ppp), 4-6 (weeks), Spring</p> | <p>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.</p> |
| <p>4"/4.5"/Quart/10 cm, 1 (ppp), 2-4 (weeks), Spring 8"/2 Gallon/20 cm, 3-4 (ppp), 2-4 (weeks), Spring 10" Pot or HB/3 Gallon/25 cm, 4-5 (ppp), 4-6 (weeks), Spring 12" Pot or HB/5 Gallon/30 cm, 5-6 (ppp), 4-6 (weeks), Spring</p> | <p>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.</p> |
| <p>Cell Pack, 1-2 (ppp), 2-3 (weeks), Spring 4"/4.5"/Quart/10 cm, 1-2 (ppp), 2-3 (weeks), Spring Field grown, 1-2 (ppp), 14-15 (weeks), Spring</p> | <p>Direct-sow into final container. Performs best when grown in-ground.</p> |
| <p>Cell Pack, 1-2 (ppp), 2-3 (weeks), Spring 4"/4.5"/Quart/10 cm, 1-2 (ppp), 2-3 (weeks), Spring Field grown, 1 (ppp), 14-15 (weeks), Spring</p> | <p>Direct-sow into final container. Performs best when grown in-ground. Vining plants can be trained up a trellis to save garden space.</p> |
| <p>Cell Pack, 1-2 (ppp), 2-3 (weeks), Spring 4"/4.5"/Quart/10 cm, 1-2 (ppp), 2-3 (weeks), Spring Field grown, 1 (ppp), 7-8 (weeks), Spring</p> | <p>Direct-sow into final container. Performs best when grown in-ground.</p> |
| <p>Cell Pack, 1-2 (ppp), 2-3 (weeks), Spring 4"/4.5"/Quart/10 cm, 1-2 (ppp), 2-3 (weeks), Spring Field grown, 1 (ppp), 15-16 (weeks), Spring</p> | <p>Direct-sow into final container. Performs best when grown in-ground. Vining plants can be trained up a trellis to save garden space.</p> |
| <p>Cell Pack, 1-2 (ppp), 2-3 (weeks), Spring 4"/4.5"/Quart/10 cm, 1-2 (ppp), 2-3 (weeks), Spring Field grown, 1 (ppp), 6-7 (weeks), Spring</p> | <p>Direct-sow into final container. Performs best when grown in-ground.</p> |
| <p>Cell Pack, 1 (ppp), 6-8 (weeks), Spring 4"/4.5"/Quart/10 cm, 1 (ppp), 8-10 (weeks), Spring 8"/2 Gallon/20 cm, 3-4 (ppp), 10-12 (weeks), Spring</p> | <p>Susceptible to mildew.</p> |

| CLASS/SERIES | RECOMMENDED PLUG SIZE | GROWING ON TEMPERATURE (DAYS/NIGHTS) | TARGET MEDIA PH/EC (1:2) |
|--|-----------------------|--|---------------------------------|
| TOMATO <i>Solanum lycopersicum</i> Artemis F₁ | 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 |
| TOMATO <i>Solanum lycopersicum</i> Bellatrix F₁ | 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 |
| TOMATO <i>Solanum lycopersicum</i> BlushingStar F₁ | 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 |
| TOMATO <i>Solanum lycopersicum</i> Candyland Red | 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 |
| TOMATO <i>Solanum lycopersicum</i> Chocolate Sprinkles F₁ | 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 |
| TOMATO <i>Solanum lycopersicum</i> DarkStar F₁ | 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 |
| TOMATO <i>Solanum lycopersicum</i> Heirloom Marriage™ Big Brandy F₁ | 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 |
| TOMATO <i>Solanum lycopersicum</i> Heirloom Marriage™ Cherokee Carbon F₁ | 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 |
| TOMATO <i>Solanum lycopersicum</i> Heirloom Marriage™ Genuwine F₁ | 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 |
| TOMATO <i>Solanum lycopersicum</i> Heirloom Marriage™ Marziner F₁ | 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 |
| TOMATO <i>Solanum lycopersicum</i> Heirloom Marriage™ Perfect Flame F₁ | 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 |
| TOMATO <i>Solanum lycopersicum</i> Helix F₁ | 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 |
| TOMATO <i>Solanum lycopersicum</i> Homeslice F₁ | 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 |
| TOMATO <i>Solanum lycopersicum</i> Little Bing F₁ | 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 |
| TOMATO <i>Solanum lycopersicum</i> Little Napoli F₁ | 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 |
| TOMATO <i>Solanum lycopersicum</i> Little Sicily F₁ | 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 |
| TOMATO <i>Solanum lycopersicum</i> Loki F₁ | 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 |

| | FINISHING PROGRAMS | KEY TIPS |
|--|---|--|
| | Cell Pack , 1 (ppp), 2-4 (weeks), Spring 4"/4.5"/Quart/10 cm , 1 (ppp), 2-4 (weeks), Spring Field grown , 1 (ppp), 7-8 (weeks), Spring | Indeterminate variety. Performs best when grown in-ground and with support. |
| | Cell Pack , 1 (ppp), 2-4 (weeks), Spring 4"/4.5"/Quart/10 cm , 1 (ppp), 2-4 (weeks), Spring 5"/6"/1 Gallon/15 cm , 1 (ppp), 4-6 (weeks), Spring | Determinate variety. Performs best when grown in-ground and with support. |
| | Cell Pack , 1 (ppp), 2-4 (weeks), Spring 4"/4.5"/Quart/10 cm , 1 (ppp), 2-4 (weeks), Spring 5"/6"/1 Gallon/15 cm , 1 (ppp), 4-6 (weeks), Spring | Indeterminate variety. Performs best when grown in-ground and with support. |
| | Cell Pack , 1 (ppp), 2-4 (weeks), Spring 4"/4.5"/Quart/10 cm , 1 (ppp), 2-4 (weeks), Spring 5"/6"/1 Gallon/15 cm , 1 (ppp), 4-6 (weeks), Spring | Indeterminate variety. Performs best when grown in-ground and with support. |
| | Cell Pack , 1 (ppp), 2-4 (weeks), Spring 4"/4.5"/Quart/10 cm , 1 (ppp), 2-4 (weeks), Spring 5"/6"/1 Gallon/15 cm , 1 (ppp), 4-6 (weeks), Spring | Indeterminate variety. Performs best when grown in-ground and with support. |
| | Cell Pack , 1 (ppp), 2-4 (weeks), Spring 4"/4.5"/Quart/10 cm , 1 (ppp), 2-4 (weeks), Spring 5"/6"/1 Gallon/15 cm , 1 (ppp), 4-6 (weeks), Spring | Indeterminate variety. Performs best when grown in-ground and with support. |
| | Cell Pack , 1 (ppp), 2-4 (weeks), Spring 4"/4.5"/Quart/10 cm , 1 (ppp), 2-4 (weeks), Spring 5"/6"/1 Gallon/15 cm , 1 (ppp), 4-6 (weeks), Spring | Indeterminate variety. Performs best when grown in-ground and with support. |
| | Cell Pack , 1 (ppp), 2-4 (weeks), Spring 4"/4.5"/Quart/10 cm , 1 (ppp), 2-4 (weeks), Spring 5"/6"/1 Gallon/15 cm , 1 (ppp), 4-6 (weeks), Spring | Indeterminate variety. Performs best when grown in-ground and with support. |
| | Cell Pack , 1 (ppp), 2-4 (weeks), Spring 4"/4.5"/Quart/10 cm , 1 (ppp), 2-4 (weeks), Spring 5"/6"/1 Gallon/15 cm , 1 (ppp), 4-6 (weeks), Spring | Indeterminate variety. Performs best when grown in-ground and with support. |
| | Cell Pack , 1 (ppp), 2-4 (weeks), Spring 4"/4.5"/Quart/10 cm , 1 (ppp), 2-4 (weeks), Spring 5"/6"/1 Gallon/15 cm , 1 (ppp), 4-6 (weeks), Spring | Indeterminate variety. Performs best when grown in-ground and with support. |
| | Cell Pack , 1 (ppp), 2-4 (weeks), Spring 4"/4.5"/Quart/10 cm , 1 (ppp), 2-4 (weeks), Spring 5"/6"/1 Gallon/15 cm , 1 (ppp), 4-6 (weeks), Spring | Indeterminate variety. Performs best when grown in-ground and with support. |
| | Cell Pack , 1 (ppp), 2-4 (weeks), Spring 4"/4.5"/Quart/10 cm , 1 (ppp), 2-4 (weeks), Spring 5"/6"/1 Gallon/15 cm , 1 (ppp), 4-6 (weeks), Spring | Indeterminate variety. Performs best when grown in-ground and with support. |
| | Cell Pack , 1 (ppp), 2-4 (weeks), Spring 4"/4.5"/Quart/10 cm , 1 (ppp), 2-4 (weeks), Spring Field grown , 1 (ppp), 7-8 (weeks), Spring | Indeterminate variety. Performs best when grown in-ground and with support. |
| | Cell Pack , 1 (ppp), 2-4 (weeks), Spring 4"/4.5"/Quart/10 cm , 1 (ppp), 2-4 (weeks), Spring 5"/6"/1 Gallon/15 cm , 1 (ppp), 4-6 (weeks), Spring | Determinate variety. Performs well in a patio planter or in-ground. Best grown with support. |
| | Cell Pack , 1 (ppp), 2-4 (weeks), Spring 4"/4.5"/Quart/10 cm , 1 (ppp), 2-4 (weeks), Spring 5"/6"/1 Gallon/15 cm , 1 (ppp), 4-6 (weeks), Spring 12" Pot or HB/5 Gallon/30 cm , 1 (ppp), 6-8 (weeks), Late Spring | Compact, determinate variety. Excellent performance in a patio planter, with or without support. |
| | Cell Pack , 1 (ppp), 2-4 (weeks), Spring 4"/4.5"/Quart/10 cm , 1 (ppp), 2-4 (weeks), Spring 5"/6"/1 Gallon/15 cm , 1 (ppp), 4-6 (weeks), Spring 12" Pot or HB/5 Gallon/30 cm , 1 (ppp), 6-8 (weeks), Late Spring | Compact, determinate variety. Excellent performance in a patio planter, with or without support. |
| | Cell Pack , 1 (ppp), 2-4 (weeks), Spring 4"/4.5"/Quart/10 cm , 1 (ppp), 2-4 (weeks), Spring 5"/6"/1 Gallon/15 cm , 1 (ppp), 4-6 (weeks), Spring 12" Pot or HB/5 Gallon/30 cm , 1 (ppp), 6-8 (weeks), Late Spring | Compact, determinate variety. Excellent performance in a patio planter, with or without support. |
| | Cell Pack , 1 (ppp), 2-4 (weeks), Spring 4"/4.5"/Quart/10 cm , 1 (ppp), 2-4 (weeks), Spring 5"/6"/1 Gallon/15 cm , 1 (ppp), 4-6 (weeks), Spring | Indeterminate variety. Performs best when grown in-ground and with support. |

| CLASS/SERIES | RECOMMENDED PLUG SIZE | GROWING ON TEMPERATURE (DAYS/NIGHTS) | TARGET MEDIA PH/EC (1:2) |
|--|-----------------------|--|---------------------------------|
| TOMATO <i>Solanum lycopersicum</i> Marzito F₁ | 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 |
| TOMATO <i>Solanum lycopersicum</i> Midnight Snack F₁ | 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 |
| TOMATO <i>Solanum lycopersicum</i> Orange Zinger F₁ | 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 |
| TOMATO <i>Solanum lycopersicum</i> Stellar F₁ | 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 |
| TOMATO <i>Solanum lycopersicum</i> Sugar Rush F₁ | 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 |
| TOMATO <i>Solanum lycopersicum</i> Sun Dipper F₁ | 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 |
| TOMATO <i>Solanum lycopersicum</i> Sunrise Sauce F₁ | 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 |
| TOMATO <i>Solanum lycopersicum</i> Tidy Treats F₁ | 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 |
| TOMATO <i>Solanum lycopersicum</i> Topsy Tom F₁ | 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 |
| TOMATO <i>Solanum lycopersicum</i> Tumbler F₁ | 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 |

| | FINISHING PROGRAMS | KEY TIPS |
|--|---|---|
| | Cell Pack , 1 (ppp), 2-4 (weeks), Spring 4"/4.5"/Quart/10 cm , 1 (ppp), 2-4 (weeks), Spring 5"/6"/1 Gallon/15 cm , 1 (ppp), 4-6 (weeks), Spring | Indeterminate variety. Performs best when grown in-ground and with support. |
| | Cell Pack , 1 (ppp), 2-4 (weeks), Spring 4"/4.5"/Quart/10 cm , 1 (ppp), 2-4 (weeks), Spring 5"/6"/1 Gallon/15 cm , 1 (ppp), 4-6 (weeks), Spring | Indeterminate variety. Performs best when grown in-ground and with support. |
| | Cell Pack , 1 (ppp), 2-4 (weeks), Spring 4"/4.5"/Quart/10 cm , 1 (ppp), 2-4 (weeks), Spring 5"/6"/1 Gallon/15 cm , 1 (ppp), 4-6 (weeks), Spring | Indeterminate variety. Performs best when grown in-ground and with support. |
| | Cell Pack , 1 (ppp), 2-4 (weeks), Spring 4"/4.5"/Quart/10 cm , 1 (ppp), 2-4 (weeks), Spring 5"/6"/1 Gallon/15 cm , 1 (ppp), 4-6 (weeks), Spring | Determinate variety. Performs best when grown in-ground and with support. |
| | Cell Pack , 1 (ppp), 2-4 (weeks), Spring 4"/4.5"/Quart/10 cm , 1 (ppp), 2-4 (weeks), Spring 5"/6"/1 Gallon/15 cm , 1 (ppp), 4-6 (weeks), Spring | Indeterminate variety. Performs best when grown in-ground and with support. |
| | Cell Pack , 1 (ppp), 2-4 (weeks), Spring 4"/4.5"/Quart/10 cm , 1 (ppp), 2-4 (weeks), Spring 5"/6"/1 Gallon/15 cm , 1 (ppp), 4-6 (weeks), Spring | Indeterminate variety. Performs best when grown in-ground and with support. |
| | Cell Pack , 1 (ppp), 2-4 (weeks), Spring 4"/4.5"/Quart/10 cm , 1 (ppp), 2-4 (weeks), Spring 5"/6"/1 Gallon/15 cm , 1 (ppp), 4-6 (weeks), Spring | Determinate variety. Performs best when grown in-ground and with support. |
| | Cell Pack , 1 (ppp), 2-4 (weeks), Spring 4"/4.5"/Quart/10 cm , 1 (ppp), 2-4 (weeks), Spring 5"/6"/1 Gallon/15 cm , 1 (ppp), 4-6 (weeks), Spring 14" Pot or HB/7 Gallon/36 cm , 1 (ppp), 6-8 (weeks), Late Spring | Compact, indeterminate variety. Performs well in a patio planter or in-ground and with support. |
| | Cell Pack , 1 (ppp), 2-4 (weeks), Spring 4"/4.5"/Quart/10 cm , 1 (ppp), 2-4 (weeks), Spring 5"/6"/1 Gallon/15 cm , 1 (ppp), 4-6 (weeks), Spring 12" Pot or HB/5 Gallon/30 cm , 1 (ppp), 6-8 (weeks), Late Spring | Superior variety for hanging baskets and patio planters. Performs well when grown upside-down. |
| | Cell Pack , 1 (ppp), 2-4 (weeks), Spring 4"/4.5"/Quart/10 cm , 1 (ppp), 2-4 (weeks), Spring 5"/6"/1 Gallon/15 cm , 1 (ppp), 4-6 (weeks), Spring 12" Pot or HB/5 Gallon/30 cm , 1 (ppp), 6-8 (weeks), Late Spring | Superior variety for hanging baskets and patio planters. Cascading habit. Performs well when grown without support. |

VEGETABLES & HERBS



NO GARDEN?
NO PROBLEM.



WAVEPHOTOPERIODIC LIGHTING CHART P. 4

ANNUALSPROPAGATION GUIDE P. 8 / FINISHING GUIDE P. 46

PERENNIALS PROPAGATION GUIDE P. 80 / FINISHING GUIDE P. 92 / FORCING GUIDE P. 108

POTTED PLANTS PROPAGATION GUIDE P. 112 / FINISHING GUIDE P. 118

CUT FLOWERS PROPAGATION GUIDE P. 124 / FINISHING GUIDE P. 132

VEGETABLES & HERBS

HANDPICKED PROPAGATION GUIDE P. 142 / FINISHING GUIDE P. 156



| CLASS/SERIES | SEED FORM | RECOMMENDED PLUG SIZE | PLUG CROP WEEKS | SEEDS/ CELL | COVER SEED | DAYS FROM 50% TO MAXIMUM GERMINATION | INITIAL MEDIA PH/EC (1:2) | STAGE 1 |
|--|-----------|-----------------------|-----------------|-------------|------------|--------------------------------------|--------------------------------|---|
| PEPPER (EDIBLE POTTED) <i>Capsicum annuum</i> Adobo | 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) |
| PEPPER (EDIBLE POTTED) <i>Capsicum annuum</i> Cosmo | 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) |
| PEPPER (EDIBLE POTTED) <i>Capsicum annuum</i> Fresh Bites Series | 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) |
| PEPPER (EDIBLE POTTED) <i>Capsicum annuum</i> Hot Burrito | 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) |
| PEPPER (EDIBLE POTTED) <i>Capsicum annuum</i> Hot Fajita | 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) |
| PEPPER (EDIBLE POTTED) <i>Capsicum annuum</i> Hot Joker | 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) |

| STAGE 2 | STAGE 3 | STAGE 4 | KEY TIPS |
|--|--|--|--|
| <p>(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> | <p>(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</p> | <p>(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</p> | <p>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.</p> |
| <p>(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> | <p>(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</p> | <p>(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</p> | <p>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.</p> |
| <p>(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> | <p>(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</p> | <p>(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</p> | <p>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.</p> |
| <p>(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> | <p>(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</p> | <p>(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</p> | <p>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.</p> |
| <p>(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> | <p>(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</p> | <p>(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</p> | <p>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.</p> |
| <p>(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> | <p>(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</p> | <p>(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</p> | <p>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.</p> |

(m) moisture (t) temperature (l) light (f) fertilizer (p) plant growth regulators

| CLASS/SERIES | SEED FORM | RECOMMENDED PLUG SIZE | PLUG CROP WEEKS | SEEDS/ CELL | COVER SEED | DAYS FROM 50% TO MAXIMUM GERMINATION | INITIAL MEDIA PH/EC (1:2) | STAGE 1 |
|---|-----------|-----------------------|-----------------|-------------|-------------|--------------------------------------|---------------------------------|---|
| PEPPER (EDIBLE POTTED) <i>Capsicum annuum</i> Lemon Zest | 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) |
| PEPPER (EDIBLE POTTED) <i>Capsicum annuum</i> Piñata | 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) |
| PEPPER (EDIBLE POTTED) <i>Capsicum annuum</i> Tamale | 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) |
| PEPPER (EDIBLE POTTED) <i>Capsicum annuum</i> Taquito | 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) |
| TOMATO (EDIBLE POTTED) <i>Solanum lycopersicum</i> Micro Tom | RAW | 288 | 3-4 | 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) |
| TOMATO (EDIBLE POTTED) <i>Solanum lycopersicum</i> Cocoa F₁ | RAW | 288 | 2-3 | 1 | Light cover | 2-3 | 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) |
| TOMATO (EDIBLE POTTED) <i>Solanum lycopersicum</i> Red Velvet F₁ | RAW | 288 | 2-3 | 1 | Light cover | 2-3 | 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) |
| TOMATO (EDIBLE POTTED) <i>Solanum lycopersicum</i> Siam F₁ | RAW | 288 | 2-3 | 1 | Light cover | 2-3 | 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) |

| STAGE 2 | STAGE 3 | STAGE 4 | KEY TIPS |
|--|--|--|--|
| <p>(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> | <p>(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</p> | <p>(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</p> | <p>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.</p> |
| <p>(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> | <p>(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</p> | <p>(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</p> | <p>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.</p> |
| <p>(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> | <p>(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</p> | <p>(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</p> | <p>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.</p> |
| <p>(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> | <p>(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</p> | <p>(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> | <p>Although Taquito 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.</p> |
| <p>(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)</p> | <p>(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)</p> | <p>(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)</p> | <p>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.</p> |
| <p>(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)</p> | <p>(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)</p> | <p>(m) Level 2-3 (t) 68-72°F (20-22°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) Less than 100 ppm N (Less than 0.7 EC)</p> | <p>Height can be controlled by avoiding overwatering, growing under high light conditions and using DIF when possible. Cocoa is naturally compact and should not need PGRs.</p> |
| <p>(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)</p> | <p>(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)</p> | <p>(m) Level 2-3 (t) 68-72°F (20-22°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) Less than 100 ppm N (Less than 0.7 EC)</p> | <p>Height can be controlled by avoiding overwatering, growing under high light conditions and using DIF when possible. Red Velvet is naturally compact and should not need PGRs.</p> |
| <p>(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)</p> | <p>(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)</p> | <p>(m) Level 2-3 (t) 68-72°F (20-22°C) (l) 2,500-5,000 f.c. (26,900-53,800 Lux) (f) Less than 100 ppm N (Less than 0.7 EC)</p> | <p>Height can be controlled by avoiding overwatering, growing under high light conditions and using DIF when possible. Siam is naturally compact and should not need PGRs.</p> |

(m) moisture (t) temperature (l) light (f) fertilizer (p) plant growth regulators

| CLASS/SERIES | RECOMMENDED PLUG SIZE | GROWING ON TEMPERATURE (DAYS/NIGHTS) | TARGET MEDIA PH/EC (1:2) |
|--|-----------------------|--|---------------------------------|
| PEPPER (EDIBLE POTTED) <i>Capsicum annuum</i> Adobo | 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 |
| PEPPER (EDIBLE POTTED) <i>Capsicum annuum</i> Cosmo | 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 |
| PEPPER (EDIBLE POTTED) <i>Capsicum annuum</i> Fresh Bites Series | 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 |
| PEPPER (EDIBLE POTTED) <i>Capsicum annuum</i> Hot Burrito | 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 |
| PEPPER (EDIBLE POTTED) <i>Capsicum annuum</i> Hot Fajita | 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 |
| PEPPER (EDIBLE POTTED) <i>Capsicum annuum</i> Hot Joker | 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 |
| PEPPER (EDIBLE POTTED) <i>Capsicum annuum</i> Lemon Zest | 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 |
| PEPPER (EDIBLE POTTED) <i>Capsicum annuum</i> Piñata | 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 |
| PEPPER (EDIBLE POTTED) <i>Capsicum annuum</i> Tamale | 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 |
| PEPPER (EDIBLE POTTED) <i>Capsicum annuum</i> Taquito | 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 |
| TOMATO (EDIBLE POTTED) <i>Solanum lycopersicum</i> Micro Tom | 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 |
| TOMATO (EDIBLE POTTED) <i>Solanum lycopersicum</i> Cocoa F₁ | 288 | (day) 68-80°F (20-27°C) (night) 68-70°F (20-21°C) | 5.5-5.9 pH 1.8-2.25 mmhos/cm |
| TOMATO (EDIBLE POTTED) <i>Solanum lycopersicum</i> Red Velvet F₁ | 288 | (day) 68-80°F (20-27°C) (night) 68-70°F (20-21°C) | 5.5-5.9 pH 1.8-2.25 mmhos/cm |
| TOMATO (EDIBLE POTTED) <i>Solanum lycopersicum</i> Siam F₁ | 288 | (day) 68-80°F (20-27°C) (night) 68-70°F (20-21°C) | 5.5-5.9 pH 1.8-2.25 mmhos/cm |

U.S. UTILITY PATENTS

US 10,212,908

Vinca Titan™ Cranberry
 Vinca Titan™ Dark Red
 Vinca Titan™ Really Red

US 10,285,362

Impatiens Beacon® Bright Red
 Impatiens Beacon® Coral
 Impatiens Beacon® Orange
 Impatiens Beacon® Rose
 Impatiens Beacon® Salmon
 Impatiens Beacon® Violet Shades
 Impatiens Beacon® White
 Impatiens Beacon® Formula Mixture
 Impatiens Beacon® Lindau Mixture
 Impatiens Beacon® Portland Mixture
 Impatiens Beacon® Red White Mixture
 Impatiens Beacon® Sanibel Mixture

US 10,631,515

Pentas Glitterati™ Purple Star
 Pentas Glitterati™ Red Star

US 10,750,692

French Marigold Fireball
 French Marigold Strawberry Blonde

US 11,166,424

Impatiens Beacon® Bright Red
 Impatiens Beacon® Coral
 Impatiens Beacon® Orange
 Impatiens Beacon® Rose
 Impatiens Beacon® Salmon
 Impatiens Beacon® Violet Shades
 Impatiens Beacon® White
 Impatiens Beacon® Formula Mixture
 Impatiens Beacon® Lindau Mixture
 Impatiens Beacon® Portland Mixture
 Impatiens Beacon® Red White Mixture
 Impatiens Beacon® Sanibel Mixture

US 7,642,436

Fuseables® Petunia Blueberry Lime Jam
 Petunia Debonair™ Black Cherry
 Petunia Debonair™ Dusty Rose
 Petunia Debonair™ Lime Green
 Petunia Sophistica® Antique Shades
 Petunia Sophistica® Blackberry
 Petunia Sophistica® Lime Bicolor
 Petunia Sophistica® Lime Green
 Petunia Sophistica® Twilight
 Spreading Petunia Easy Wave® Berry Velour
 Spreading Petunia Easy Wave® Burgundy Velour
 Spreading Petunia Easy Wave® Red Velour
 Spreading Petunia Tidal Wave® Red Velour
 Spreading Petunia Wave® Carmine Velour

US 7,915,504

Alyssum Clear Crystal® Lavender Shades
 Alyssum Clear Crystal® Purple Shades
 Alyssum Clear Crystal® White
 Alyssum Clear Crystal® Mixture

US 7,982,110

Echinacea Artisan™ Collection Red Ombre
 Echinacea Artisan™ Collection Soft Orange
 Echinacea Artisan™ Collection Yellow Ombre
 Echinacea Cheyenne Spirit
 Echinacea PowWow® Wild Berry

US 9,301,465

Ornamental Pepper Hot Pops Purple

US 9,307,712

Ornamental Pepper Hot Pops Yellow

US 9,320,212

French Marigold Hot Pak™ Gold
 French Marigold Hot Pak™ Mixture

US 9,326,464

French Marigold Hot Pak™ Harmony
 French Marigold Hot Pak™ Mixture

US 9,326,465

French Marigold Hot Pak™ Yellow
 French Marigold Hot Pak™ Mixture

US 9,326,466

French Marigold Hot Pak™ Spry
 French Marigold Hot Pak™ Mixture

US 9,326,467

French Marigold Hot Pak™ Orange
 French Marigold Hot Pak™ Mixture

US 9,326,468

French Marigold Hot Pak™ Flame
 French Marigold Hot Pak™ Mixture

US 9,451,748

Vinca Valiant™ Burgundy
 Vinca Valiant™ Mixture

US 9,451,749

Vinca Valiant™ Mixture

US 9,451,750

Vinca Valiant™ Orchid

US 9,451,751

Vinca Valiant™ Punch
 Vinca Valiant™ Mixture

US 9,451,752

Vinca Valiant™ Lilac
 Vinca Valiant™ Mixture

U.S. UTILITY PATENTS APPLIED FOR

Vinca Valiant™ Apricot
 Vinca Valiant™ Magenta

U.S. PLANT VARIETY PROTECTIONS

Celosia Kosmo Pink - 200400022
 Coleus, Premium Shade Kong® Red - 200500015
 Coleus, Premium Shade Kong® Rose - 200500017
 Coleus, Premium Shade Kong®
 Salmon Pink - 200900035
 Coreopsis SunKiss - 201700014
 Cuphea Pink Shimmer - 201800290
 Erysimum Citrona® Orange - 200600167
 Erysimum Citrona® Yellow - 200600168
 French Marigold Bonanza™ Bolero - 201800074
 French Marigold Bonanza™
 Deep Orange - 201800517
 French Marigold Flamenco - 202000034
 Helenium Dakota Gold - 200600009
 Matthiola Katz Ruby - 201200438
 Myosotis Mon Amie Blue - 200800070
 Ornamental Oregano Kirigami - 201800057
 Ornamental Pepper Black Pearl - 200500020
 Salvia interspecific Big Blue - 201700218
 Vinca Mediterranean XP Dark Red - 200900043
 Vinca Mediterranean XP Hot Rose - 200900084
 Vinca Mediterranean XP Peach - 200900080
 Vinca Mediterranean XP Red - 200900081
 Vinca Mediterranean XP Strawberry - 200900083
 Vinca Mediterranean XP White - 200900053
 Vinca Pacifica XP Burgundy Halo - 200700272
 Vinca Pacifica XP Dark Red - 200600189
 Vinca Pacifica XP Magenta Halo - 200500216
 Vinca Pacifica XP Really Red - 200600190
 Vinca Pacifica XP Rose Halo - 200500218
 Vinca Tattoo™ Black Cherry - 201800427
 Vinca Tattoo™ Blueberry - 202100168
 Vinca Tattoo™ Papaya - 201800424
 Vinca Tattoo™ Raspberry - 201800426
 Vinca Tattoo™ Tangerine - 201800425
 Vinca Tattoo™ American Pie Mixture -
 202100168 , 200600190
 Zinnia Double Zahara™ Cherry - 201600027

Zinnia Double Zahara™ Fire - 201600032
 Zinnia Double Zahara™
 Raspberry Ripple - 201800173
 Zinnia Double Zahara™ Salmon - 201900097
 Zinnia Double Zahara™ Yellow - 202000360
 Zinnia Zahara® Cherry - 201600029
 Zinnia Zahara® Fire - 201000090
 Zinnia Zahara® Raspberry - 201500215
 Zinnia Zahara® Red - 201600030
 Zinnia Zahara® White - 201400297
 Zinnia Zahara® Yellow - 201500214

U.S. PLANT VARIETY PROTECTIONS APPLIED FOR
 Vinca Tattoo™ Orange

EUROPEAN COMMUNITY PLANT BREEDER'S RIGHTS

Celosia Neo™ Gold - 46508
 Celosia Neo™ Orange - 44055
 Celosia Neo™ Pink - 43694
 Celosia Neo™ Red - 46509
 Celosia Neo™ Rose - 43693
 Coreopsis SunKiss - 46544
 Echinacea PowWow® Wild Berry - 35233
 Heuchera Melting Fire - 20557
 Lavandula Avignon Early Blue - 57924
 Lavandula Blue Spear - 57923
 Lavandula Lavance Deep Purple - 48822

EUROPEAN COMMUNITY UTILITY PATENTS APPLIED FOR

French Marigold Fireball
 French Marigold Strawberry Blonde
 Fuseables® Petunia Blueberry Lime Jam
 Impatiens Beacon® Bright Red
 Impatiens Beacon® Coral
 Impatiens Beacon® Orange
 Impatiens Beacon® Rose
 Impatiens Beacon® Salmon
 Impatiens Beacon® Violet Shades
 Impatiens Beacon® White
 Impatiens Beacon® Formula Mixture
 Impatiens Beacon® Lindau Mixture
 Impatiens Beacon® Portland Mixture
 Impatiens Beacon® Red White Mixture
 Impatiens Beacon® Sanibel Mixture
 Petunia Debonair™ Black Cherry
 Petunia Debonair™ Dusty Rose
 Petunia Debonair™ Lime Green
 Petunia Sophistica® Antique Shades
 Petunia Sophistica® Blackberry
 Petunia Sophistica® Lime Bicolor
 Petunia Sophistica® Lime Green
 Petunia Sophistica® Twilight
 Spreading Petunia Easy Wave® Berry Velour
 Spreading Petunia Easy Wave® Burgundy Velour
 Spreading Petunia Easy Wave® Red Velour
 Spreading Petunia Tidal Wave® Red Velour
 Spreading Petunia Wave® Carmine Velour

CANADA UTILITY PATENTS APPLIED FOR

Impatiens Beacon® Bright Red
 Impatiens Beacon® Coral
 Impatiens Beacon® Orange
 Impatiens Beacon® Rose
 Impatiens Beacon® Salmon
 Impatiens Beacon® Violet Shades
 Impatiens Beacon® White
 Impatiens Beacon® Formula Mixture
 Impatiens Beacon® Lindau Mixture
 Impatiens Beacon® Portland Mixture
 Impatiens Beacon® Red White Mixture
 Impatiens Beacon® Sanibel Mixture

Ageratum
High Tide™ F1 Series 8, 46

Alternanthera
Purple Knight 8, 46
Purple Prince 8, 46

Alyssum
Clear Crystal® Series 8, 46
Easter Bonnet Series 8, 46
Snow Crystals 8, 46

Anemone
Mona Lisa® F1 Series 124, 132

Angelonia
Serena® F1 Series 8, 46
Serenita® F1 Series 8, 46

Aquilegia
Earlybird™ F1 Series 80, 92
Swan F1 Series 80, 92
Winky Double Series 80, 92
Winky Single Series 80, 92

Armeria
Ballerina Series 80, 92

Asclepias
Silky Series 124, 132

Aurinia
Gold Rush 80, 92

Bacopa
Blutopia® F1 8, 46
Pinktopia F1 8, 46
Snowtopia® F1 10, 46

Begonia
BabyWing® F1 Series 10, 46
Dragon Wing® F1 Series 10, 46
Gryphon 10, 46
Megawatt™ F1 Series 10, 48

Begonia (Spreading)
Hula™ Series 10, 48

Begonia (Tuberous)
AmeriHybrid® Picotee F1 Series 10, 48
AmeriHybrid® Ruffled F1 Series 10, 48
On Top® F1 Series 10, 48
Sun Dancer™ F1 Series 10, 48

Bellis
Bellissima™ Series 80, 92

Campanula
Campana F1 Series 124, 132
Campanella™ F1 Series 112, 118
Rapido F1 Series 80, 92

Carthamus
Grenade Series 124, 132

Celosia
Celway™ Series 124, 132
Concertina™ Series 112, 118
Dracula 12, 48
First Flame™ Series 12, 48
Ice Cream Series 12, 48
Kosmo Series 112, 118
Neo™ Series 124, 132
Spring Green 124, 132
Sunday™ Series 124, 132

Celosia Foliage, Sol™
Gekko Green 12, 48
Lizzard Leaf 12, 48

Coleus
Black Dragon 12, 48
Wizard® Series 12, 48

Coleus, Premium Shade
Kong® Series 12, 50
Kong Jr.™ Series 12, 50

Coleus, Premium Sun
Chocolate Covered Cherry 12, 50
Chocolate Mint 12, 50
Crimson Gold 12, 50
Dark Chocolate 14, 50
Lime Delight 14, 50
Mighty Mosaic 14, 50
Pineapple Surprise 14, 50
Rose to Lime Magic 14, 52
Ruby Heart 14, 52
Watermelon 14, 52

ColorGrass® Anemanthele
Sirocco 14, 52

ColorGrass® Carex
Amazon Mist 14, 52
Bronco 14, 52
Phoenix Green 14, 52
Red Rooster 14, 52

ColorGrass® Festuca
Festina 16, 52

ColorGrass® Isolepis
Live Wire 16, 52

ColorGrass® Juncus
Blue Arrows 16, 52
Blue Dart 16, 52
Javelin 16, 52
Starhead 16, 52
Twister 16, 52

ColorGrass® Koeleria
Coolio 16, 52

ColorGrass® Luzula
Lucius 16, 54

ColorGrass® Stipa
Pony Tails 16, 54

Coreopsis
Double the Sun 80, 94
Early Sunrise 80, 94
Sunfire 80, 94
SunKiss 82, 94

Cosmos
Antiquity 16, 54
Mandarin 18, 54
Sonata™ Series 18, 54

Crossandra
Tropic Series 18, 54

Cucumber
Gherking F1 142, 156
Martini F1 142, 156
Patjo Snacker F1 142, 156

Cuphea
Dynamite 18, 54
Pink Shimmer 18, 54

Dahlia
Figaro™ Series 18, 54

Delphinium
Blue Donna 82, 94, 124, 134
Dasante Blue F1 82, 94
Diamonds Blue F1 82, 94
Guardian F1 Series 82, 96, 126, 134

Dianthus
Amazon™ F1 Series 126, 134
Coronet™ F1 Series 18, 54
Dash™ F1 Series 18, 54
Dynasty F1 Series 18, 54
Floral Lace™ F1 Series 18, 54
Ideal Select™ F1 Series 18, 54
Rockin'™ F1 Series 82, 96
Sweet™ F1 Series 126, 134

Dianthus (Interspecific)
Jolt™ F1 Series 20, 56

Dichondra
Emerald Falls 20, 56
Silver Falls 20, 56

Digitalis
Dalmatian F1 Series 82, 96

Dusty Miller Maritima
Silverdust 20, 56

Echinacea
Artisan™ Collection F1 Series 82, 96
Cheyenne Spirit 82, 96
PowWow® Series 82, 98

Eggplant
Asian Delite F1 142, 156
Fairy Tale F1 142, 156
Gretel F1 142, 156
Hansel F1 142, 156
Patio Baby F1 142, 156

Erysimum
Citrona® Series 20, 56

Euphorbia
Glamour 20, 56
Glitz F1 20, 56

Exacum
Princess Series 112, 118
Royal Dane Series 112, 118

Fuseables®
Bacopa Series 20, 56
Coleus Series 20, 56
Petunia-Bacopa Series 22, 58
Petunia Series 22, 56
Twisted Arrows 22, 58

Gaillardia
Mesa™ F1 Series 84, 98

Gaura
Sparkle White 84, 98

Gazania
New Day® F1 Series 22, 58

Gazania Tetraploid
Sunshine Series 22, 58

Gerbera
ColorBloom™ F1 Series 112, 118
Mega Revolution™ F1 Series 112, 118
Revolution™ F1 Series 112, 118

Gomphrena
Fireworks 22, 58, 126, 134
QIS Series 126, 134

Grass Panicum Capillare
Frosted Explosion 126, 134

Gypsophila
Pixie Splash 84, 98

Helenium
Dakota Gold 22, 58

Helichrysum
Silver Mist 22, 58

Herb (Basil)
Dolce Fresca 142, 156
Everleaf Emerald Towers 142, 156
Everleaf Genovese 142, 156
Everleaf Thai Towers 142, 156
Newton 144, 156
Purple Ruffles 144, 156

Herb (Dill)
Fernleaf 144, 156

Herb (SimplyHerbs™)
Basil 144, 156
Curled Parsley 144, 156
Dill 144, 156
Large-Leaf Italian
Flat Leaf Parsley 144, 156
Oregano 144, 158
Rosemary 144, 158
Sage 144, 158
Thyme 144, 158
Try Basil 144, 158

Heuchera
Melting Fire 84, 98
Palace Purple 84, 98

Hibiscus
Luna™ F1 Series 84, 98
Mahogany Splendor 22, 58

Hypoestes
Splash Select™ Series 112, 118

Iberis
Whiteout F1 84, 98

Impatiens
Beacon® F1 Series 22, 58
Dazzler® F1 Series 22, 58
Super Elfin® F1 Series 24, 58
Super Elfin® XP F1 Series 24, 58

Impatiens (Interspecific)
Solarscape™ F1 Series 24, 60
Solarscape™ XL F1 Series 24, 60

Iresine
Purple Lady 24, 60

Lavandula
Avignon Early Blue 84, 98
Bandera Series 86, 100
Blue Spear 86, 100
Ellagance Series 86, 100
Lavance Deep Purple 86, 100
Spanish Eyes 86, 100

Leucanthemum
Madonna F1 86, 100
White Lion F1 86, 102

Limonium
QIS Series 126, 134

Lisianthus
ABC™ F1 Series 126, 134
Can Can F1 Series 126, 134
Flare F1 Series 126, 136
Florida F1 Series 24, 60
Sapphire F1 Series 112, 118

Lobelia
Crystal Palace 24, 60
Rapid Series 24, 60
Regatta Series 24, 60
Riviera Series 24, 60
Starship™ F1 Series 88, 102

Marigold
Xochi™ F1 Series 126, 136

Marigold (African)
Marvel II™ F1 Series 26, 60
Taishan® F1 Series 26, 60
Vanilla F1 26, 60

Marigold (French)
Bonanza™ Series 26, 62
Durango® Series 26, 62
Fireball 26, 62
Flamenco 26, 62
Hot Pak™ Series 26, 62
Janie Series 26, 62
Strawberry Blonde 26, 62

- Matricaria**
Vegmo Series 128, 136
- Matthiola**
Aida Series 128, 136
Column Stock Series 128, 136
Figaro Series 128, 136
Katz Hi Double Series 128, 136
Katz Series 128, 136
Mathilda™ Series 128, 136
Opera Series 128, 138
Tosca Series 130, 138
- Myosotis**
Mon Amie Series 88, 102
- Nemesia**
Poetry™ F1 Series 26, 62
Sundrops Mixture 26, 62
- Ornamental Millet**
Copper Prince F1 26, 62
Jade Princess F1 28, 62
Jester F1 28, 62
Purple Baron F1 28, 62
Purple Majesty 28, 64
- Ornamental Mint**
Mini Mint 28, 64
- Ornamental Oregano**
Kirigami 28, 64
- Osteospermum**
Akila® F1 Series 28, 64
- Pansy**
Frizzle Sizzle F1 Series 28, 64
Matrix® F1 Series 28, 64
Panola® XP F1 Series 28, 64
Spring Matrix™ F1 Series 30, 64
- Pansy (Spreading)**
Cool Wave® F1 Series 30, 66
- Papaver**
Champagne
Bubbles F1 Series 88, 102
- Penstemon**
Electric Blue 88, 102
- Pentas**
Butterfly™ F1 Series 30, 66
Glitterati™ F1 Series 30, 66
Lucky Star® F1 Series 32, 66
- Pepper**
Aji Rico F1 144, 158
Cajun Belle 146, 158
Candy Cane Chocolate
Cherry F1 146, 158
Candy Cane Red F1 146, 158
Golden Cayenne 146, 158
La Bomba II F1 146, 158
Mad Hatter F1 146, 158
Peppi Cornissimo F1 146, 158
Peppi F1 Series 146, 158
PeppiGrande Red F1 146, 158
Pot-a-peño F1 146, 158
Primero Red F1 146, 158
Snackabelle Red F1 148, 158
Sweet Heat F1 148, 158
Trailblazer F1 148, 160
- Pepper (Edible Potted)**
Adobo 168, 172
Cosmo 168, 172
Fresh Bites Series 168, 172
Hot Burrito 168, 172
Hot Fajita 168, 172
Hot Joker 168, 172
Lemon Zest 170, 172
Piñata 170, 172
Tamale 170, 172
Taquito 170, 172
- Pepper (Ornamental)**
Acapulco™ Series 114, 118
Black Pearl 32, 66
Blaze 114, 118
Calico F1 32, 66
Chilly Chili F1 114, 118
Cupala 114, 120
Harlequin 114, 120
Hot Pops Series 114, 120
Joker 114, 120
Masquerade 114, 120
Medusa 114, 120
Midnight Fire 32, 66
Purple Flash 32, 66
Red Missile 116, 120
Salsa XP Series 116, 120
Samba Series 116, 120
Sangria F1 32, 66
Santos Series 116, 120
Sedona Sun 32, 66
Wicked 116, 120
- Perovskia**
Bluesette 88, 104
Blue Steel 88, 102
- Petunia**
Daddy® F1 Series 32, 66
Debonair™ F1 Series 34, 66
Dreams™ F1 Series 34, 66
Ez Rider® F1 Series 34, 66
Lo Rider™ F1 Series 34, 68
Madness® F1 Series 34, 68
Mirage F1 Series 34, 68
Pretty Flora™ F1 Series 34, 68
Pretty Grand™ F1 Series 34, 68
Sophistica® F1 Series 34, 68
Supercascade F1 Series 36, 68
- Petunia (Double)**
Double Cascade F1 Series 36, 68
Double Madness™ F1 Series 36, 68
Duo F1 Series 36, 68
Glorious F1 Series 36, 68
Pirouette F1 Series 36, 70
- Petunia (Spreading)**
E3 Easy Wave™ F1 Series 36, 70
Easy Wave® F1 Series 36, 70
Shock Wave® F1 Series 36, 70
Tidal Wave® F1 Series 38, 70
Wave® F1 Series 38, 70
- Phlox**
21st Century F1 Series 38, 70
- Plectranthus**
Silver Crest 38, 72
Silver Shield 38, 72
- Portulaca**
Happy Hour™ F1 Series 38, 72
Happy Trails™ F1 Series 38, 72
- Primula**
Heritage Crème F1 38, 72
Primlet® Series 38, 72
- Purslane**
Toucan Series 38, 72
- Rudbeckia**
Goldblitz 88, 104
Goldsturm 88, 104
- Ruellia**
Southern Star Series 38, 72
- Salvia**
Lancelot 40, 72
Lighthouse Series 40, 72
New Dimension™ Series 90, 104
Patio Series 90, 106
Red Hot Sally II 40, 72
Salvatore Blue 90, 106
Scarlet King 40, 72
Vista™ Series 40, 72
- Salvia interspecific**
Big Blue 40, 72
- Scabiosa**
Blue Note 90, 106
Pink Diamonds 90, 106
- Silene**
Starry Dreams 90, 106
- SimplySalad®**
Alfresco Mixture 148, 160
Arugula 148, 160
City Garden Mixture 148, 160
Global Gourmet Mixture 148, 160
Kale Storm Mixture 148, 160
Pro San Mixture 148, 160
Pro Tatu Mixture 148, 160
Summer Picnic Mixture 148, 160
Wonder Wok Mixture 148, 160
- Snapdragon**
Cool F1 Series 130, 138
Early Potomac™ F1 Series 130, 138
Maryland F1 Series 130, 138
Monaco F1 Series 130, 138
Potomac™ F1 Series 130, 138
Purple Twist F1 130, 138
Rocket F1 Series 40, 74
Snapshot™ F1 Series 40, 74
- Squash**
Autumn Frost F1 150, 160
Butterbaby 150, 160
Easy Pick F1 Series 150, 160
Honeynut 150, 160
Lemon Sun F1 150, 160
- Stock**
Hot Cakes Series 40, 74
- Strawberry**
Fresca 150, 160
- Sunflower**
Ballad F1 116, 120
Choco Sun 116, 120
Miss Sunshine F1 116, 120
SunBuzz F1 116, 120
- Thunbergia**
Susie™ Series 40, 74
- Tomato**
Artemis F1 150, 162
Bellatrix F1 150, 162
BlushingStar F1 150, 162
Candyland Red 150, 162
Chocolate Sprinkles F1 150, 162
DarkStar F1 150, 162
Heirloom Marriage™
Big Brandy F1 152, 162
Heirloom Marriage™
Cherokee Carbon F1 152, 162
Heirloom Marriage™
Genuine F1 152, 162
Heirloom Marriage™
Marzineria F1 152, 162
Heirloom Marriage™
Perfect Flame F1 152, 162
Helix F1 152, 162
Homeslice F1 152, 162
Little Bing F1 152, 162
Little Napoli F1 152, 162
Little Sicily F1 152, 162
Loki F1 152, 162
Marzito F1 154, 164
Micro Tom 170, 172
Midnight Snack F1 154, 164
Orange Zinger F1 154, 164
Stellar F1 154, 164
Sugar Rush F1 154, 164
Sun Dipper F1 154, 164
Sunrise Sauce F1 154, 164
Tidy Treats F1 154, 164
Topsy Tom F1 154, 164
Tumbler F1 154, 164
- Tomato (Edible Potted)**
Cocoa F1 170, 172
Red Velvet F1 170, 172
Siam F1 170, 172
- Torenia**
Kauai™ Series 42, 74
- Trachelium**
Lake Series 130, 138
- Verbascum**
Southern Charm 90, 106
- Verbena**
Buenos Aires 90, 106
Quartz Series 42, 74
Quartz XP Series 42, 74
Santos Purple 90, 106
- Vinca**
Mediterranean XP Series 42, 74
Pacifica XP Series 42, 74
Tattoo™ Series 42, 74
Titan™ F1 Series 42, 74
Valiant™ F1 Series 42, 76
- Viola**
Frizzle Sizzle Mini F1 Series 42, 76
Quicktime™ F1 Series 42, 76
Sorbet® F1 Series 44, 76
Sorbet® XP F1 Series 44, 76
- Zinnia**
Double Zahara™ Series 44, 76
Star Series 44, 76
State Fair Series 44, 76
Zahara® Series 44, 76
Zesty™ Series 44, 76

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622 Town Road • West Chicago, Illinois 60185-2698 USA
+1 630 231-1400 or +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

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