2021

SEED PRODUCT INFORMATION GUIDE

Ball Seed®

PanAmerican Seed®

NEW VARIETIES FOR 2021

ANNUALS

F1 African Marigold
Marvel II™ Gold
Marvel II Orange
Marvel II Yellow
Marvel II Mixture

F1 Angelonia
Serena® Blue Improved
Serena Purple Improved
Serenita® Lavender

Celosia
First Flame™ Yellow Improved
(Foliage) Sol™ Gekko Green
(Foliage) Sol Lizzard Leaf

F1 Impatiens
Beacon® Bright Red
Beacon Coral
Beacon Orange
Beacon Salmon
Beacon Violet Shades
Beacon White
Beacon Red White Mixture
Beacon Select Mixture

F1 Extra Large-Flowered Pansy
Matrix® Red Wing Improved

F1 Spreading Pansy
Cool Wave® Red Wing Improved (EU & AOR)
Cool Wave Sunshine 'N Wine Improved (NA only)

F1 Pentas
Glitterati™ Red Star

F1 Spreading Petunia
Easy Wave® Rose Fusion
Shock Wave® Purple Tie Dye

Salvia
Lancelot

Vinca
Tattoo™ Blueberry
Tattoo American Pie Mixture
Valiant™ Apricot Improved F1
Valiant Magenta F1

F1 Viola
Quicktime™ Blue
Quicktime Yellow Blotch

Zinnia
Double Zahara™ Yellow Improved

PERENNIALS

F1 Aquilegia
Earlybird™ Blue White
Earlybird Purple Blue
Earlybird Purple White
Earlybird Purple Yellow
Earlybird Red White
Earlybird Red Yellow
Earlybird White
Earlybird Yellow
Earlybird Mixture

Arabis
Barranca™ Deep Rose
Barranca Pink

Aurinia
Gold Rush

Delphinium
Dasante Blue

F1 Echinacea
Artisan™ Collection Red Ombre
Artisan Collection Soft Orange

F1 Lobelia
Starship™ Blue
Starship Burgundy
Starship Scarlet Bronze Leaf

POTTED PLANTS

Celosia
Kosmo Orange
Kosmo Mixture Improved

F1 Edible Potted Tomato
Siam

F1 Gerbera
ColorBloom™ Red with Dark Eye
ColorBloom White with Dark Eye
ColorBloom Mixture Improved
Mega Revolution™ Scarlet Red with Light Eye Improved
Mega Revolution™ Select Mixture Improved
Revolution™ Deep Orange with Dark Eye

CUT FLOWERS

F1 Anemone
Mona Lisa® Orchid Shades Improved

Grass Panicum
Frosted Explosion

F1 Lisianthus
Can Can Purple
Flare Jade
Flare Yellow

Matthiola
Aida Purple

F1 Snapdragon
Maryland Rose
Potomac™ Pink Improved
Potomac Red Improved

HANDPICKED VEGETABLES & HERBS

F1 Eggplant
Asian Delite

F1 Pepper
PeppiGrande Red

SimplySalad®
Pro San Mixture
Pro Tatu Mixture

F1 Squash
Autumn Frost

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

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	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**

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.**

PHOTOPERIODIC LIGHTING CHART

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)	Easy Wave® Rose Fusion
1	9.5 hours	Easy Wave Lavender Sky Blue
2	10 hours	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, Purple, Purple Tie Dye, and Rose
4	11 hours	Easy Wave Pink, Plum Vein, Red, and Red Velour
5	12 hours	Wave Lavender, Misty Lilac, Pink, Purple Classic, Purple** and Rose; 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
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
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
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	L	L	L	L	L	L	L	L
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	L	L	L	L	L	L	L	L	L	L	L	L	L
Group 6	L	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	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L

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
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
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	L	L	L	L	L	L
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	L	L	L	L	L	L	L	L
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	L	L	L	L	L	L	L	L	L	L	L	L	L
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	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L

Latitude N35°, For cities such as: Atlanta, GA; Charlotte, NC; Little Rock, AR; Los Angeles; CA, Oklahoma City, OK

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
Group 2	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	L	L	L	L	
Group 3	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	L	L	L	L	L	L
Group 4	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	L	L	L	L	L	L	L	L
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	L	L	L	L	L	L	L	L	L	L	L	L
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	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L

Latitude N40°, For cities such as: Baltimore, MD; Cincinnati, OH; Columbus, OH; Denver, CO; Indianapolis, IN; Philadelphia, PA; Salt Lake City, UT

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	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	L	L	L	
Group 2	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	L	L	L	L	L	L
Group 3	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	L	L	L	L	L	L	L	L
Group 4	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	L	L	L	L	L	L	L	L	L	L
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	L	L	L	L	L	L	L	L	L	L	L	L
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	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L

Latitude N42.5°, For cities such as: Boston, MA; Buffalo, NY; Chicago, IL; Cleveland, OH; Kalamazoo, MI; Grand Rapids, MI; Toledo, OH

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	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	L	L	L	L	L	
Group 2	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	L	L	L	L	L	L
Group 3	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	L	L	L	L	L	L
Group 4	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	L	L	L	L	L	L	L	L	L	L
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	L	L	L	L	L	L	L	L	L	L	L	L
Group 6	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	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L

Latitude N45°, For cities such as: Minneapolis, MN; Montreal, QC; Ottawa, ON; Portland, OR; Traverse City, MI; Toronto, ON

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	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	L	L	L	L	L	L
Group 2	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	L	L	L	L	L	L
Group 3	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	L	L	L	L	L	L
Group 4	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	L	L	L	L	L	L	L	L	L	L	L
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	L	L	L	L	L	L	L	L	L	L	L	L
Group 6	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	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L

Latitude N50°, For cities such as: Seattle, WA; Vancouver, BC; Winnipeg, MB

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	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	L	L	L	L	L	L	L
Group 2	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	L	L	L	L	L	L	L	L	L
Group 3	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	L	L	L	L	L	L	L	L	L
Group 4	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	L	L	L	L	L	L	L	L	L	L	L
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	L	L	L	L	L	L	L	L	L	L	L	L
Group 6	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	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L

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PanAmerican Seed®

ANNUALS

CLASS/SERIES	SEED FORM	RECOMMENDED PLUG SIZE	PLUG CROP WEEKS	SEEDS/ CELL	COVER SEED	DAYS TO GERMINATE	INITIAL MEDIA PH/EC	STAGE 1	
ABUTILON *Abutilon x hybridum* **Bella™ Series**	RAW	288	4-5	1	Yes	3	5.5-6.3 pH 0.75 mmhos/cm	**(m)** Level 4 **(t)** 72-75°F (22-24°C) **(l)** Optional	
AGERATUM *Ageratum houstonianum* **High Tide™ F$_1$ 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 *Alternanthera dentata* **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 *Alternanthera brasiliana* **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 *Lobularia maritima* **Clear Crystal® Series**	COT, MPL	288 4	4 5-6 1	1	Yes	3-4	5.8-6.2 pH 0.75 mmhos/cm	**(m)** Level 4 **(t)** 70-72°F (21-22°C)	
ALYSSUM *Lobularia maritima* **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 *Lobularia maritima* **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 *Angelonia angustifolia* **Serena® F$_1$ 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 *Angelonia angustifolia* **Serenita® F$_1$ 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	
ASTER *Callistephus chinesis* **Pot 'N Patio Series**	RAW	288	4-5	1	Yes	3-4	5.8-6.2 pH 0.75 mmhos/cm	**(m)** Level 4 **(t)** 68-72°F (20-22°C)	
BACOPA *Sutera cordata* **Blutopia® F$_1$**	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 *Sutera cordata* **Pinktopia F$_1$**	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)** 65-72°F (18-22°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 3-4 **(t)** 65-70°F (18-21°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 3 **(t)** 62-65°F (17-18°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	
	(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	
	(m) Level 3-4 **(t)** 68-72°F (20-22°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 3-4 **(t)** 65-71°F (18-22°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 3-4 **(t)** 62-65°F (17-18°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	A paclobutrazol sprench at 1 ppm, 1 week before plug finish, can be useful to control growth when this item is used in combination planters.
	(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)** 65-72°F (18-22°C) **(l)** 2,500 f.c. (26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 3-4 **(t)** 65-72°F (18-22°C) **(l)** 2,500 f.c. (26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 3 **(t)** 60-70°F (16-21°C) **(l)** 5,000 f.c. (53,800 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	
	(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.

CLASS/SERIES	SEED FORM	RECOMMENDED PLUG SIZE	PLUG CROP WEEKS	SEEDS/ CELL	COVER SEED	DAYS TO GERMINATE	INITIAL MEDIA PH/EC	STAGE 1	
BACOPA *Sutera cordata* **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 *Begonia x hybrida* **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)** Optional	
BEGONIA *Begonia x hybrida* **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)** Optional	
BEGONIA *Begonia x hybrida* **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 *Begonia interspecific* **Megawatt™ 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)** Optional	
BEGONIA (TUBEROUS) *Begonia x tuberosa* **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) *Begonia x tuberosa* **AmeriHybrid® Roseform 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) *Begonia x tuberosa* **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	

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)** 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)** 32-68°F (0-20°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.

CLASS/SERIES	SEED FORM	RECOMMENDED PLUG SIZE	PLUG CROP WEEKS	SEEDS/ CELL	COVER SEED	DAYS TO GERMINATE	INITIAL MEDIA PH/EC	STAGE 1	
BEGONIA (TUBEROUS) *Begonia x tuberosa* **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) *Begonia x tuberosa* **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	
CALIBRACHOA *Calibrachoa x hybrida* **Crave™ F₁ Series**	PMPL	288 128	5-6 7-8	1 1	Optional	5-7	5.5-5.8 pH 0.75 mmhos/cm	**(m)** Level 5 **(t)** 72-75°F (22-24°C) **(l)** Optional	
CALIBRACHOA *Calibrachoa x hybrida* **Kabloom™ F₁ Series**	PMPL	288 128	5-6 7-8	1 1	Optional	5-7	5.5-5.8 pH 0.75 mmhos/cm	**(m)** Level 5 **(t)** 72-75°F (22-24°C) **(l)** Optional	
CELOSIA *Celosia cristata* **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 *Celosia plumosa* **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 *Celosia plumosa* **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™ *Celosia argentea* **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	

	STAGE 2	STAGE 3	STAGE 4	KEY TIPS
	(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 **(t)** 68-72°F (20-22°C) **(l)** 10-12 mol·m^{-2}·d^{-1} **(f)** Less than 100 ppm N - Less than 0.7 EC **(p)** daminozide 2,500-2,750 ppm Spray **or** paclobutrazol 3-4 ppm Spray	**(m)** Level 2-4 **(t)** 64-68°F (18-20°C) **(l)** 10-15 mol·m^{-2}·d^{-1} **(f)** Less than 100 ppm N - Less than 0.7 EC **(p)** daminozide 2,500-2,750 ppm Spray **or** paclobutrazol 3-4 ppm Spray	**(m)** Level 2-4 **(t)** 55-64°F (13-18°C) **(l)** 10-20 mol·m^{-2}·d^{-1} **(f)** Less than 100 ppm N - Less than 0.7 EC **(p)** daminozide 2,500-2,750 ppm Spray **or** paclobutrazol 3-4 ppm Spray	Plug Stage and Timing: Stage 1 at 75°F (25°C) 5 days; Stage 1 at 68°F (20°C) 7 days. Pinch or shear is recommended for small pots and low DLI conditions. Pinch, leaving at least 4 nodes.
	(m) Level 4 **(t)** 68-70°F (20-21°C) **(l)** 10-12 mol·m^{-2}·d^{-1} **(f)** Less than 100 ppm N - Less than 0.7 EC **(p)** daminozide 2,000-2,500 ppm Spray **or** paclobutrazol 2-3 ppm Spray	**(m)** Level 2-4 **(t)** 64-68°F (18-20°C) **(l)** 10-15 mol·m^{-2}·d^{-1} **(f)** Less than 100 ppm N - Less than 0.7 EC **(p)** daminozide 2,000-2,500 ppm Spray **or** paclobutrazol 2-3 ppm Spray	**(m)** Level 2-4 **(t)** 55-64°F (13-18°C) **(l)** 10-20 mol·m^{-2}·d^{-1} **(f)** Less than 100 ppm N - Less than 0.7 EC **(p)** daminozide 2,000-2,500 ppm Spray **or** paclobutrazol 2-3 ppm Spray	Pinch or shear is recommended for small pots and low DLI conditions. Pinch, leaving at least 4 nodes.
	(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.

CLASS/SERIES	SEED FORM	RECOMMENDED PLUG SIZE	PLUG CROP WEEKS	SEEDS/ CELL	COVER SEED	DAYS TO GERMINATE	INITIAL MEDIA PH/EC	STAGE 1	
CELOSIA FOLIAGE, SOL™ *Celosia argentea* **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 *Solenostemon scutellarioides* **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 *Solenostemon scutellarioides* **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 *Solenostemon scutellarioides* **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 *Solenostemon scutellarioides* **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 *Solenostemon scutellarioides* **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 *Solenostemon scutellarioides* **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 *Solenostemon scutellarioides* **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	
COLEUS, PREMIUM SUN *Solenostemon scutellarioides* **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 *Solenostemon scutellarioides* **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 *Solenostemon scutellarioides* **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 *Solenostemon scutellarioides* **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	

STAGE 2	STAGE 3	STAGE 4	KEY TIPS
(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) 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.

CLASS/SERIES	SEED FORM	RECOMMENDED PLUG SIZE	PLUG CROP WEEKS	SEEDS/ CELL	COVER SEED	DAYS TO GERMINATE	INITIAL MEDIA PH/EC	STAGE 1	
COLEUS, PREMIUM SUN *Solenostemon scutellarioides* **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 *Solenostemon scutellarioides* **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 *Anemanthele lessoniana* **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 *Carex comans* **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 *Carex comans* **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 *Carex comans* **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 *Carex buchananii* **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	
COLORGRASS® CORYNEPHORUS *Corynephorus canescens* **Spiky Blue**	MPL	288	6-7	1	Light cover	3-6	5.5-6.2 pH 0.75 mmhos/cm	**(m)** Level 4 **(t)** 68-79°F (20-26°C) **(l)** Optional	
COLORGRASS® FESTUCA *Festuca cinerea (Festuca glauca)* **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 *Isolepis cernua* **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 *Juncus inflexus* **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 *Juncus tenuis* **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 *Juncus pallidus* **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 *Juncus ensifolius* **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 *Juncus effusus spiralis* **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	

	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)** 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 3-4 **(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) 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 3-4 **(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 Draecena Spike.
	(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	

CLASS/SERIES	SEED FORM	RECOMMENDED PLUG SIZE	PLUG CROP WEEKS	SEEDS/ CELL	COVER SEED	DAYS TO GERMINATE	INITIAL MEDIA PH/EC	STAGE 1
COLORGRASS® KOELERIA *Koeleria glauca* **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 *Luzula nivea* **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 *Stipa tenuissima* **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 *Cosmos bipinnatus* **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 **(f)** Less than 100 ppm N - Less than 0.7 EC
COSMOS *Cosmos sulphureus* **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 **(f)** Less than 100 ppm N - Less than 0.7 EC
COSMOS *Cosmos bipinnatus* **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 **(f)** Less than 100 ppm N - Less than 0.7 EC
CROSSANDRA *Crossandra infundibuliformis* **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 *Cuphea ignea* **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 **(f)** Less than 100 ppm N - Less than 0.7 EC
CUPHEA *Cuphea ramosissima* **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 **(f)** Less than 100 ppm N - Less than 0.7 EC
CYCLAMEN *Cyclamen persicum* **Dreamscape™ F_1 Series**	RAW	288 128	11-12 14	1 1	Yes	19-21	5.6-5.8 pH 0.8 mmhos/cm	**(m)** Level 4-5 **(t)** 64°F (18°C) **(l)** Dark **(f)** Less than 100 ppm N - Less than 0.7 EC
DAHLIA *Dahlia x hybrida* **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 *Dianthus chinensis* **Corona™ F_1 Series**	PEL	288	4-6	1	Yes	3-5	5.8-6.2 pH 0.75 mmhos/cm	**(m)** Level 4 **(t)** 64-68°F (18-20°C) **(l)** Optional
DIANTHUS *Dianthus barbatus* **Dash™ F_1 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

STAGE 2	STAGE 3	STAGE 4	KEY TIPS
(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) Level 3-4 **(t)** 61-65°F (16-18°C) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 2-3 **(t)** 61-65°F (16-18°C) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 2-3 **(t)** 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)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 2-3 **(t)** 61-65°F (16-18°C) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 2-3 **(t)** 61-65°F (16-18°C) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	Can treat the plugs at early Stage 1 with Bonzi at 15 ppm applied as a spray to control early stretch. Daylength extension in the plug stage may be used to prevent premature flowering.
(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 $mol \cdot m^{-2} \cdot d^{-1}$, 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 $mol \cdot m^{-2} \cdot d^{-1}$, 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 $mol \cdot m^{-2} \cdot d^{-1}$, 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 4-5 **(t)** 62-64°F (17-18°C) **(l)** 10-15 $mol \cdot m^{-2} \cdot d^{-1}$ **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 3-4 **(t)** 61-64°F (16-18°C) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 2-3 **(t)** 61-64°F (16-18°C) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	Option is to transplant the plug into 60-72 cell tray and extend plug stage around 6-7 weeks before potting. This will reduce crop time after potting and plugs can be grown in a more controlled condition for a longer period.
(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)** 65-70°F (18-21°C) **(l)** 5-8 $mol \cdot m^{-2} \cdot d^{-1}$ **(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 $mol \cdot m^{-2} \cdot d^{-1}$ **(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 $mol \cdot m^{-2} \cdot d^{-1}$ **(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 $mol \cdot m^{-2} \cdot d^{-1}$ **(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 $mol \cdot m^{-2} \cdot d^{-1}$ **(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 $mol \cdot m^{-2} \cdot d^{-1}$ **(f)** 175 to 225 ppm N - 1.2 to 1.5 EC	

CLASS/SERIES	SEED FORM	RECOMMENDED PLUG SIZE	PLUG CROP WEEKS	SEEDS/ CELL	COVER SEED	DAYS TO GERMINATE	INITIAL MEDIA PH/EC	STAGE 1	
DIANTHUS *Dianthus barbatus interspecific* **Dynasty F_1 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 *Dianthus chinensis x barbatus* **Floral Lace™ F_1 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 *Dianthus chinensis x barbatus* **Ideal Select™ F_1 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 (INTERSPECIFIC) *Dianthus barbatus interspecific* **Jolt™ F_1 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 *Dichondra repens* **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 **(f)** Less than 100 ppm N - Less than 0.7 EC	
DICHONDRA *Dichondra argentea* **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 **(f)** Less than 100 ppm N - Less than 0.7 EC	
DUSTY MILLER MARITIMA *Cineraria maritima/ Senecio cineraria* **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 *Erysimum species* **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 *Euphorbia graminea* **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 *Euphorbia graminea* **Glitz F_1**	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	

STAGE 2	STAGE 3	STAGE 4	KEY TIPS
(m) Level 3-4 **(t)** 65-70°F (18-21°C) **(l)** 5-8 $mol \cdot m^{-2} \cdot d^{-1}$ **(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 $mol \cdot m^{-2} \cdot d^{-1}$ **(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 $mol \cdot m^{-2} \cdot d^{-1}$ **(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 $mol \cdot m^{-2} \cdot d^{-1}$ **(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 $mol \cdot m^{-2} \cdot d^{-1}$ **(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 $mol \cdot m^{-2} \cdot d^{-1}$ **(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 $mol \cdot m^{-2} \cdot d^{-1}$ **(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 $mol \cdot m^{-2} \cdot d^{-1}$ **(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 $mol \cdot m^{-2} \cdot d^{-1}$ **(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 $mol \cdot m^{-2} \cdot d^{-1}$ **(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 $mol \cdot m^{-2} \cdot d^{-1}$ **(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 $mol \cdot m^{-2} \cdot d^{-1}$ **(f)** 175 to 225 ppm N - 1.2 to 1.5 EC	A small percentage (3-5%) of flowering off-types can be observed with Jolt dianthus at 4 to 5 weeks from sowing. These plants should be removed/ discarded at transplant.
(m) Level 3-4 **(t)** 65-72°F (18-22°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 2-3 **(t)** 65-70°F (18-21°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC **(p)** daminozide 2,500 ppm Spray	**(m)** Level 2-3 **(t)** 62-65°F (17-18°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	Spray daminozide at 2,500 ppm one week before transplant to promote branches. Grows best in warm and dry conditions. Use light feed. Rinse foliage after feeding to avoid salt burn.
(m) Level 3-4 **(t)** 65-72°F (18-22°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 2-3 **(t)** 65-70°F (18-21°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC **(p)** daminozide 2,500 ppm Spray	**(m)** Level 2-3 **(t)** 62-65°F (17-18°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	Spray B-Nine at 2,500 ppm one week before transplant to promote branches. Grows best in warm and dry conditions. Use light feed. Rinse foliage after feeding to avoid salt burn.
(m) Level 4-2 **(t)** 70-75°F (21-24°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 3-2 **(t)** 65-70°F (18-21°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC **(p)** daminozide 2,500-5,000 ppm Spray	**(m)** Level 3-2 **(t)** 60-62°F (16-17°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	Preventative fungicide for Alternaria is recommended. Keep foliage as dry as possible to reduce risk of diseases.
(m) Level 4 **(t)** 65-70°F (18-21°C) **(l)** 2,500-3,000 f.c. (26,900-32,300 Lux)	**(m)** Level 4-3 **(t)** 60-65°F (16-18°C) **(l)** 2,500-3,000 f.c. (26,900-32,300 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC **(p)** paclobutrazol 10 ppm Spray	**(m)** Level 4-2 **(t)** 55-60°F (13-16°C) **(l)** 2,500-3,000 f.c. (26,900-32,300 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	
(m) Level 4 **(t)** 65-72°F (18-22°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 3-4 **(t)** 65-72°F (18-22°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC **(p)** daminozide 2,500 ppm Spray	**(m)** Level 2-3 **(t)** 65-72°F (18-22°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC **(p)** daminozide 2,500-5,000 ppm Spray	Avoid temperatures below 62°F (16°C), as cooler temperatures cause foliage yellowing. Plug sizes 128 or larger should be sown at 2 seeds per cell. 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 sprench 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.
(m) Level 4 **(t)** 65-72°F (18-22°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 3-4 **(t)** 65-72°F (18-22°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC **(p)** daminozide 2,500 ppm Spray	**(m)** Level 2-3 **(t)** 65-72°F (18-22°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC **(p)** daminozide 2,500 ppm Spray	Avoid temperatures below 62°F (16°C), as cooler temperatures cause foliage yellowing. Plug sizes 128 or larger should be sown at 2 seeds per cell. Can apply daminozide spray for height control, with first application at true leaf stage, followed by a second application 7 days later. An alternative to daminozide would be an application of paclobutrazol sprench 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.

CLASS/SERIES	SEED FORM	RECOMMENDED PLUG SIZE	PLUG CROP WEEKS	SEEDS/ CELL	COVER SEED	DAYS TO GERMINATE	INITIAL MEDIA PH/EC	STAGE 1	
FUSEABLES® *Sutera cordata* **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® *Calibrachoa hybrid* **Calibrachoa Series**	PMPL	128 288	4-5	1	No	4-5	5.5-5.8 pH 0.75 mmhos/cm	**(m)** Level 5 **(t)** 68-77°F (20-25°C) **(l)** Optional	
FUSEABLES® *Solenostemon scutellariodes* **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	
FUSEABLES® *Viola x wittrockiana* **Pansy F_1 Series**	PRM	128 288	4-5	1	Yes	2-3	5.5-5.8 pH 0.75 mmhos/cm	**(m)** Level 4 **(t)** 65-70°F (18-21°C) **(l)** Optional	
FUSEABLES® *Petunia x hybrida* **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® *Petunia hybrida, Sutera cordata* **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® *Juncus inflexus – Juncus effusus spiralis* **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	
FUSEABLES® *Juncus inflexus – Juncus effusus spiralis* **Twisted Dart**	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	
FUSEABLES® *Viola cornuta* **Viola Series**	PMPL	128 288	4-5	1	No	3-4	5.4-5.8 pH 0.75 mmhos/cm	**(m)** Level 5 **(t)** 65-68°F (18-20°C) **(l)** Optional	
FUSEABLES® *Viola cornuta, Lobularia maritima* **Viola-Alyssum Series**	PMPL	128 288	3-4	1	No	2-4	5.4-5.8 pH 0.75 mmhos/cm	**(m)** Level 5 **(t)** 65-68°F (18-20°C) **(l)** Optional	
GAZANIA *Gazania rigens* **New Day® F_1 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 *Gazania rigens* **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 *Gomphrena pulchella* **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	

STAGE 2	STAGE 3	STAGE 4	KEY TIPS
(m) Level 3-4 **(t)** 68-70°F (20-21°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 3-4 **(t)** 65-70°F (18-21°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 3 **(t)** 59-65°F (15-18°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	
(m) Level 4-5 **(t)** 68-72°F (20-22°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 2-4 **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC **(p)** daminozide 2,500 ppm Spray	**(m)** Level 2-4 **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	
(m) Level 3-4 **(t)** 71-73°F (22-23°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 2-4 **(t)** 68-70°F (20-21°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 2-4 **(t)** 59-64°F (15-18°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	
(m) Level 3-4 **(t)** 65-70°F (18-21°C) **(l)** 2,500 f.c. (26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 3-4 **(t)** 65-70°F (18-21°C) **(l)** 2,500 f.c. (26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC **(p)** daminozide 1,500-2,500 ppm Spray **or** daminozide/chlormequat chloride tank mix 1,500/250-2,500/500 ppm Spray	**(m)** Level 2-4 **(t)** 60-65°F (16-18°C) **(l)** 5,000 f.c. (53,800 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC **(p)** daminozide 1,500-2,500 ppm Spray **or** daminozide/chlormequat chloride tank mix 1,500/250-2,500/500 ppm Spray	Adjust PGR rates and frequency of application depending on local conditions in Stages 3 and 4. Cool Wave varieties do not respond uniformly to ancymidol in plug production, so its use is not recommended. Using 105/128 plugs promotes stronger lateral growth and quicker finish. In general, 288 plug size is not preferable for Fuseables. If chosen, use a younger, actively growing plug that is not rootbound.
(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)** 68-70°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 4-5 **(t)** 65-68°F (18-20°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 2-4 **(t)** 65-67°F (18-19°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC **(p)** ancymidol 3-5 ppm Spray	**(m)** Level 2-4 **(t)** 53-60°F (12-16°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	
(m) Level 4-5 **(t)** 65-68°F (18-20°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 2-4 **(t)** 65-67°F (18-19°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC **(p)** ancymidol 3-5 ppm Spray	**(m)** Level 2-4 **(t)** 53-60°F (12-16°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	
(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.

CLASS/SERIES	SEED FORM	RECOMMENDED PLUG SIZE	PLUG CROP WEEKS	SEEDS/ CELL	COVER SEED	DAYS TO GERMINATE	INITIAL MEDIA PH/EC	STAGE 1
HELENIUM *Helenium amarum* **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 *Helichrysum microphyllum (Plectostachys serphyllifolia)* **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 *Hibiscus acetosella* **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 *Impatiens walleriana* **Beacon® F_1 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)** 72-76°F (22-24°C) **(l)** Optional
IMPATIENS *Impatiens walleriana* **Dazzler® F_1 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)** 72-76°F (22-24°C) **(l)** Optional
IMPATIENS *Impatiens walleriana* **Impreza™ F_1 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)** 72-76°F (22-24°C) **(l)** Optional
IMPATIENS *Impatiens walleriana* **Super Elfin® F_1 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)** 72-76°F (22-24°C) **(l)** Optional
IMPATIENS *Impatiens walleriana* **Super Elfin® XP F_1 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)** 72-76°F (22-24°C) **(l)** Optional
IMPATIENS (NEW GUINEA) *Impatiens hawkeri* **Divine™ F_1 Series**	RAW	288	5-6	1	No	5-8	5.8-6.2 pH 0.75 mmhos/cm	**(m)** Level 5 **(t)** 74-77°F (23-25°C) **(l)** Light
IRESINE *Iresine herbstii* **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)
ISOTOMA *Isotoma hybrida* **Gemini F_1 Series**	PEL	288	4-5	2-4	No	5-8	5.8-6.2 pH 0.75 mmhos/cm	**(m)** Level 4 **(t)** 68-72°F (20-22°C) **(l)** Optional
ISOTOMA *Isotoma axillaris* **Tristar Series**	PEL	288	4-5	2-4	No	5-8	5.8-6.2 pH 0.75 mmhos/cm	**(m)** Level 4 **(t)** 68-72°F (20-22°C) **(l)** Optional

	STAGE 2	STAGE 3	STAGE 4	KEY TIPS
	(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)** 70-72°F (21-22°C) **(l)** 450-700 f.c. (4,800-7,500 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 2-3 **(t)** 68-70°F (20-21°C) **(l)** 450-700 f.c. (4,800-7,500 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 2-3 **(t)** 62-65°F (17-18°C) **(l)** 450-700 f.c. (4,800-7,500 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	Do not cover seed.
	(m) Level 2-4 **(t)** 70-72°F (21-22°C) **(l)** 450-700 f.c. (4,800-7,500 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 2-3 **(t)** 68-70°F (20-21°C) **(l)** 450-700 f.c. (4,800-7,500 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 2-3 **(t)** 62-65°F (17-18°C) **(l)** 450-700 f.c. (4,800-7,500 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	Do not cover seed.
	(m) Level 2-4 **(t)** 70-72°F (21-22°C) **(l)** 450-700 f.c. (4,800-7,500 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 2-3 **(t)** 68-70°F (20-21°C) **(l)** 450-700 f.c. (4,800-7,500 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 2-3 **(t)** 62-65°F (17-18°C) **(l)** 450-700 f.c. (4,800-7,500 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	Do not cover seed.
	(m) Level 2-4 **(t)** 70-72°F (21-22°C) **(l)** 450-700 f.c. (4,800-7,500 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 2-3 **(t)** 68-70°F (20-21°C) **(l)** 450-700 f.c. (4,800-7,500 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 2-3 **(t)** 62-65°F (17-18°C) **(l)** 450-700 f.c. (4,800-7,500 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	Do not cover seed.
	(m) Level 2-4 **(t)** 70-72°F (21-22°C) **(l)** 450-700 f.c. (4,800-7,500 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 2-3 **(t)** 68-70°F (20-21°C) **(l)** 450-700 f.c. (4,800-7,500 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 2-3 **(t)** 62-65°F (17-18°C) **(l)** 450-700 f.c. (4,800-7,500 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	Do not cover seed.
	(m) Level 3-4 **(t)** 70-74°F (21-23°C) **(l)** 2,500 f.c. (26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC **(p)** daminozide 1,250 ppm Spray **or** paclobutrazol 1/2-1 ppm Spray	**(m)** Level 3-4 **(t)** 70-74°F (21-23°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC **(p)** daminozide 1,500-3,500 ppm Spray **or** paclobutrazol 1/2-1 ppm Spray	**(m)** Level 3-4 **(t)** 70-74°F (21-23°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC **(p)** daminozide 1,500-3,500 ppm Spray **or** paclobutrazol 1/2-1 ppm Spray	Transplanting: Flowering may be delayed from crowded conditions in a plug tray. Do not allow plugs to get rootbound. Growth Regulator: Negative DIF and DROP work very well for New Guinea Impatiens height control. As necessary, daminozide can be applied as a spray at 1,250 ppm at first true leaf, followed by rates as high as 3,500 ppm if conditions warrant. Paclobutrazol spray at a low rate (0.5 to 1 ppm) is also effective at first true leaf stage.
	(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 4 **(t)** 68-72°F (20-22°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 3-4 **(t)** 65-68°F (18-20°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC **(p)** daminozide 1,000-1,500 ppm Spray	**(m)** Level 3 **(t)** 65-68°F (18-20°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	Incorporate a preventative fungicide program to avoid damping-off.
	(m) Level 3-4 **(t)** 68-72°F (20-22°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 3-4 **(t)** 65-68°F (18-20°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC **(p)** daminozide 1,000-1,500 ppm Spray	**(m)** Level 3 **(t)** 65-68°F (18-20°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	Incorporate a preventative fungicide program to avoid damping-off.

CLASS/SERIES	SEED FORM	RECOMMENDED PLUG SIZE	PLUG CROP WEEKS	SEEDS/ CELL	COVER SEED	DAYS TO GERMINATE	INITIAL MEDIA PH/EC	STAGE 1
LEYCESTERIA *Leycesteria formosa* **Jealousy**	MPL	288	7-8	1	Light cover	9-12	5.8-6.2 pH 0.75 mmhos/cm	**(m)** Level 4 **(t)** 65-70°F (18-21°C) **(l)** Light
LINARIA *Linaria hybrida* **Enchantment F$_1$**	MPL	288	4-5	1	Yes	2-3	5.8-6.2 pH 0.75 mmhos/cm	**(m)** Level 4 **(t)** 65-68°F (18-20°C) **(l)** Optional
LISIANTHUS *Eustoma grandiflorum* **Florida F$_1$ 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 *Lobelia erinus* **Cambridge 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 *Lobelia erinus* **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 *Lobelia erinus* **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 *Lobelia erinus* **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 *Lobelia erinus* **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
MARIGOLD (AFRICAN) *Tagetes erecta* **Marvel II™ F$_1$ 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) *Tagetes erecta* **Taishan® F$_1$ 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) *Tagetes erecta* **Vanilla F$_1$**	COT, DTL	288	3-4	1	Yes	2-3	6.2-6.5 pH 0.75 mmhos/cm	**(m)** Level 4 **(t)** 70-72°F (21-22°C) **(l)** Optional **(f)** Less than 100 ppm N - Less than 0.7 EC
MARIGOLD (FRENCH) *Tagetes patula* **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) *Tagetes patula* **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) *Tagetes patula* **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

	STAGE 2	STAGE 3	STAGE 4	KEY TIPS
	(m) Level 4 **(t)** 68-73°F (20-23°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 2-4 **(t)** 65-70°F (18-21°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 2-4 **(t)** 65-67°F (18-19°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	Requires light to germinate.
	(m) Level 3-4 **(t)** 65-72°F (18-22°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 3-4 **(t)** 65-70°F (18-21°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 3 **(t)** 62-65°F (17-18°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	Stage 1 early PGR application is very important for avoiding leggy/stretchy seedlings.
	(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) 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)** 68-72°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.

CLASS/SERIES	SEED FORM	RECOMMENDED PLUG SIZE	PLUG CROP WEEKS	SEEDS/ CELL	COVER SEED	DAYS TO GERMINATE	INITIAL MEDIA PH/EC	STAGE 1	
MARIGOLD (FRENCH) *Tagetes patula* **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) *Tagetes patula* **Gate Orange**	DTL, RAW	288	3-4	1	Yes	2-3	6.2-6.5 pH 0.75 mmhos/cm	**(m)** Level 4 **(t)** 70-72°F (21-22°C) **(l)** Optional	
MARIGOLD (FRENCH) *Tagetes patula* **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) *Tagetes patula* **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) *Tagetes patula* **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 *Nemesia foetans* **Poetry™ F_1 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 *Nemesia strumosa* **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 CORN *Zea mays* **Pink Zebra**	RAW	72 128	2-3 1-2	1-2 1-2	Heavy cover	2-3	5.5-6.3 pH 0.75 mmhos/cm	**(m)** Level 4-5 **(t)** 72-78°F (22-26°C) **(l)** Optional	
ORNAMENTAL MILLET *Pennisetum glaucum* **Copper Prince F_1**	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 *Pennisetum glaucum* **Jade Princess F_1**	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 *Pennisetum glaucum* **Jester F_1**	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 *Pennisetum glaucum* **Purple Baron F_1**	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) **(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 delay foliage stripe color appearance after transplant. Seed may also be direct sown to the final container at 2 seeds per cell, reducing total crop time by 2 weeks.
	(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) 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.

CLASS/SERIES	SEED FORM	RECOMMENDED PLUG SIZE	PLUG CROP WEEKS	SEEDS/ CELL	COVER SEED	DAYS TO GERMINATE	INITIAL MEDIA PH/EC	STAGE 1	
ORNAMENTAL MILLET *Pennisetum glaucum* **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 *Mentha requienii* **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 *Origanum x hybrida* **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 *Osteospermum ecklonis* **Akila® F_1 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 *Viola x wittrockiana* **Frizzle Sizzle F_1 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 *Viola x wittrockiana* **Halloween F_1**	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 *Viola x wittrockiana* **Matrix® F_1 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 *Viola x wittrockiana* **Panola® F_1 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 *Viola x wittrockiana* **Panola® XP F_1 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 *Viola x wittrockiana* **Promise® F_1 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 *Viola x wittrockiana* **Spring Matrix™ F_1 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)** 1,000-2,500 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. 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) 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.
	(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.

CLASS/SERIES	SEED FORM	RECOMMENDED PLUG SIZE	PLUG CROP WEEKS	SEEDS/ CELL	COVER SEED	DAYS TO GERMINATE	INITIAL MEDIA PH/EC	STAGE 1	
PANSY (SPREADING) *Viola x wittrockiana* **Cool Wave® F_1 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 *Pentas lanceolata* **Butterfly™ F_1 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 *Pentas lanceolata* **Glitterati™ F_1 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
	(m) Level 3-4 **(t)** 65-70°F (18-21°C) **(l)** 2,500 f.c. (26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 3-4 **(t)** 65-70°F (18-21°C) **(l)** 2,500 f.c. (26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC **(p)** daminozide 1,500-2,500 ppm Spray **or** daminozide/chlormequat chloride tank mix 1,500/250-2,500/500 ppm Spray	**(m)** Level 2-4 **(t)** 60-65°F (16-18°C) **(l)** 5,000 f.c. (53,800 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC **(p)** daminozide 1,500-2,500 ppm Spray **or** daminozide/chlormequat chloride tank mix 1,500/250-2,500/500 ppm Spray	Adjust PGR rates and frequency of application depending on local conditions in Stages 3 and 4. Cool Wave varieties do not respond uniformly to ancymidol in plug production, so its use is not recommended. Using 105/128 plugs promotes stronger lateral growth and quicker finish. If using a 288, transplant a younger, actively growing plug that is not rootbound.
	(m) Level 4 **(t)** 75°F (24°C) **(l)** 1,500-2,000 f.c. (16,100-21,500 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 3-4 **(t)** 65-68°F (18-20°C) **(l)** 2,500 f.c. (26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC **(p)** daminozide 2,500 ppm Spray **or** paclobutrazol 5 ppm Spray	**(m)** Level 2-4 **(t)** 60-65°F (16-18°C) **(l)** 3,500-5,000 f.c. (37,700-53,800 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC **(p)** daminozide 2,500 ppm Spray **or** paclobutrazol 5 ppm Spray	Pentas have the ability to naturally lower the media pH. High iron levels or pH below 6.0 can cause marginal burn and yellowing on older or lower leaves. Raise pH by adding limestone. Extremely low pH can induce iron and manganese toxicity (brown or tan lesions on the foliage); use a base-forming fertilizer, such as 15-0-15. If symptoms do not improve, or if the pH is below 6.0, irrigate the crop with a hydrated lime solution; rinse foliage after application to avoid phytotoxicity. Calcium and Magnesium deficiency: If pH falls below recommended target values, lower leaf interveinal chlorosis and foliar puckering can develop. Use fertilizers that contain magnesium during early crop development. Supplement with calcium nitrate to adjust pH. Avoid wide fluctuations in media moisture levels. PGR Note: Rates of up to 5,000 ppm daminozide or 10 ppm paclobutrazol have been found to be effective under warmer growing conditions. Temperature differential (DIF) can also be used to minimize height.
	(m) Level 4 **(t)** 75°F (24°C) **(l)** 1,500-2,000 f.c. (16,100-21,500 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 3-4 **(t)** 65-68°F (18-20°C) **(l)** 2,500 f.c. (26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC **(p)** daminozide 2,500 ppm Spray **or** paclobutrazol 5 ppm Spray	**(m)** Level 2-4 **(t)** 60-65°F (16-18°C) **(l)** 3,500-5,000 f.c. (37,700-53,800 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC **(p)** daminozide 2,500 ppm Spray **or** paclobutrazol 5 ppm Spray	Pentas have the ability to naturally lower the media pH. High iron levels or pH below 6.0 can cause marginal burn and yellowing on older or lower leaves. Raise pH by adding limestone. Extremely low pH can induce iron and manganese toxicity (brown or tan lesions on the foliage); use a base-forming fertilizer, such as 15-0-15. If symptoms do not improve, or if the pH is below 6.0, irrigate the crop with a hydrated lime solution; rinse foliage after application to avoid phytotoxicity. Calcium and Magnesium deficiency: If pH falls below recommended target values, lower leaf interveinal chlorosis and foliar puckering can develop. Use fertilizers that contain magnesium during early crop development. Supplement with calcium nitrate to adjust pH. Avoid wide fluctuations in media moisture levels. PGR Note: Rates of up to 5,000 ppm daminozide or 10 ppm paclobutrazol have been found to be effective under warmer growing conditions. Temperature differential (DIF) can also be used to minimize height.

CLASS/SERIES	SEED FORM	RECOMMENDED PLUG SIZE	PLUG CROP WEEKS	SEEDS/ CELL	COVER SEED	DAYS TO GERMINATE	INITIAL MEDIA PH/EC	STAGE 1	
PENTAS *Pentas lanceolata* **Lucky Star® F_1 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) *Capsicum annuum* **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) *Capsicum annuum* **Calico F_1**	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) *Capsicum annuum* **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) *Capsicum annuum* **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) *Capsicum annuum* **Sangria F_1**	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) *Capsicum annuum* **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 *Petunia x hybrida* **Carpet F_1 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 *Petunia x hybrida* **Daddy® F_1 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)** 75°F (24°C) **(l)** 4-6 $mol \cdot m^{-2} \cdot d^{-1}$, 1,500-2,000 f.c. (16,100-21,500 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 2-4 **(t)** 68-75°F (20-24°C) **(l)** 6-8 $mol \cdot m^{-2} \cdot d^{-1}$, 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	**(m)** Level 2-4 **(t)** 65-70°F (18-21°C) **(l)** 10-12 $mol \cdot m^{-2} \cdot d^{-1}$, 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	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.
	(m) Level 3-4 **(t)** 68-73°F (20-23°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 2-4 **(t)** 68-70°F (20-21°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC **(p)** uniconazole 2.5 ppm Spray	**(m)** Level 2-4 **(t)** 68-70°F (20-21°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	Performs best under high light and warm temperatures. If necessary, uniconazole (Sumagic) at rate of 2.5 ppm can be applied at 2 weeks after sowing for height control. Repeat 2 weeks later if needed.
	(m) Level 3-4 **(t)** 68-73°F (20-23°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 2-4 **(t)** 68-70°F (20-21°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC **(p)** uniconazole 2.5 ppm Spray	**(m)** Level 2-4 **(t)** 68-70°F (20-21°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	Performs best under high light and warm temperatures. If necessary, uniconazole (Sumagic) at rate of 2.5 ppm can be applied at 2 weeks after sowing for height control. Repeat 2 weeks later if needed.
	(m) Level 3-4 **(t)** 68-73°F (20-23°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 2-4 **(t)** 68-70°F (20-21°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC **(p)** uniconazole 2.5 ppm Spray	**(m)** Level 2-4 **(t)** 68-70°F (20-21°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	Performs best under high light and warm temperatures. If necessary, uniconazole (Sumagic) at rate of 2.5 ppm can be applied at 2 weeks after sowing for height control. Repeat 2 weeks later if needed.
	(m) Level 3-4 **(t)** 68-73°F (20-23°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 2-4 **(t)** 68-70°F (20-21°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC **(p)** uniconazole 2.5 ppm Spray	**(m)** Level 2-4 **(t)** 68-70°F (20-21°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	Performs best under high light and warm temperatures. If necessary, uniconazole (Sumagic) at rate of 2.5 ppm can be applied at 2 weeks after sowing for height control. Repeat 2 weeks later if needed.
	(m) Level 3-4 **(t)** 68-73°F (20-23°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 2-4 **(t)** 68-70°F (20-21°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC **(p)** uniconazole 2.5 ppm Spray	**(m)** Level 2-4 **(t)** 68-70°F (20-21°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	Performs best under high light and warm temperatures. If necessary, uniconazole (Sumagic) at rate of 2.5 ppm can be applied at 2 weeks after sowing for height control. Repeat 2 weeks later if needed.
	(m) Level 3-4 **(t)** 68-73°F (20-23°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 2-4 **(t)** 68-70°F (20-21°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 2-4 **(t)** 68-70°F (20-21°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	Performs best under high light and warm temperatures. If necessary, uniconazole (Sumagic) at rate of 2.5 ppm can be applied at 2 weeks after sowing for height control.
	(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	

CLASS/SERIES	SEED FORM	RECOMMENDED PLUG SIZE	PLUG CROP WEEKS	SEEDS/ CELL	COVER SEED	DAYS TO GERMINATE	INITIAL MEDIA PH/EC	STAGE 1	
PETUNIA *Petunia x hybrida* **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 *Petunia x hybrida* **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 *Petunia x hybrida* **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 *Petunia x hybrida* **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 *Petunia x hybrida* **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 *Petunia x hybrida* **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 *Petunia x hybrida* **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 *Petunia x hybrida* **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 *Petunia x hybrida* **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	
PETUNIA *Petunia x hybrida* **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) *Petunia x hybrida* **Bonanza 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)** Light	
PETUNIA (DOUBLE) *Petunia x hybrida* **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) *Petunia x hybrida* **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	

	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) 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)** 450-700 f.c. (4,800-7,500 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 2-4 **(t)** 65-70°F (18-21°C) **(l)** 450-700 f.c. (4,800-7,500 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 2-4 **(t)** 60-62°F (16-17°C) **(l)** 450-700 f.c. (4,800-7,500 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	Germination on some varieties may be improved by a 25 to 50 ppm N application of potassium nitrate after sowing.
	(m) Level 3-4 **(t)** 68-75°F (20-24°C) **(l)** 450-700 f.c. (4,800-7,500 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 2-4 **(t)** 65-70°F (18-21°C) **(l)** 450-700 f.c. (4,800-7,500 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 2-4 **(t)** 60-62°F (16-17°C) **(l)** 450-700 f.c. (4,800-7,500 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	Germination on some varieties may be improved by a 25 to 50 ppm N application of potassium nitrate after sowing.
	(m) Level 3-4 **(t)** 68-75°F (20-24°C) **(l)** 450-700 f.c. (4,800-7,500 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 2-4 **(t)** 65-70°F (18-21°C) **(l)** 450-700 f.c. (4,800-7,500 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 2-4 **(t)** 60-62°F (16-17°C) **(l)** 450-700 f.c. (4,800-7,500 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	Germination on some varieties may be improved by a 25 to 50 ppm N application of potassium nitrate after sowing.

CLASS/SERIES	SEED FORM	RECOMMENDED PLUG SIZE	PLUG CROP WEEKS	SEEDS/ CELL	COVER SEED	DAYS TO GERMINATE	INITIAL MEDIA PH/EC	STAGE 1	
PETUNIA (DOUBLE) *Petunia x hybrida* **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) *Petunia x hybrida* **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) *Petunia x hybrida* **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) *Petunia x hybrida* **Combo Blue F₁**	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)	
PETUNIA (SPREADING) *Petunia x hybrida* **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) *Petunia x hybrida* **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	
PETUNIA (SPREADING) *Petunia x hybrida* **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) *Petunia x hybrida* **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 *Phlox drummondii* **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	
PHLOX *Phlox drummondii* **Ethnie Series**	RAW	288	4-5	1	Yes	3-5	5.8-6.0 pH 0.75 mmhos/cm	**(m)** Level 4 **(t)** 65-70°F (18-21°C) **(l)** Dark	
PHLOX *Phlox drummondii* **Grammy Pink & White F₁**	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	
PHLOX *Phlox drummondii* **Promise Series**	RAW	288	4-5	1	Yes	3-5	5.8-6.0 pH 0.75 mmhos/cm	**(m)** Level 4 **(t)** 65-70°F (18-21°C) **(l)** Dark	
PLECTRANTHUS *Plectranthus argentatus* **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	

STAGE 2	STAGE 3	STAGE 4	KEY TIPS
(m) Level 3-4 **(t)** 68-75°F (20-24°C) **(l)** 450-700 f.c. (4,800-7,500 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 2-4 **(t)** 68-70°F (20-21°C) **(l)** 450-700 f.c. (4,800-7,500 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 2-4 **(t)** 60-62°F (16-17°C) **(l)** 450-700 f.c. (4,800-7,500 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	Germination on some varieties may be improved by a 25 to 50 ppm N application of potassium nitrate after sowing.
(m) Level 3-4 **(t)** 68-75°F (20-24°C) **(l)** 450-700 f.c. (4,800-7,500 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 2-4 **(t)** 65-70°F (18-21°C) **(l)** 450-700 f.c. (4,800-7,500 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 2-4 **(t)** 60-62°F (16-17°C) **(l)** 450-700 f.c. (4,800-7,500 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	Germination on some varieties may be improved by a 25 to 50 ppm N application of potassium nitrate after sowing.
(m) Level 3-4 **(t)** 68-75°F (20-24°C) **(l)** 450-700 f.c. (4,800-7,500 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 2-4 **(t)** 65-70°F (18-21°C) **(l)** 450-700 f.c. (4,800-7,500 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 2-4 **(t)** 60-62°F (16-17°C) **(l)** 450-700 f.c. (4,800-7,500 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	Germination on some varieties may be improved by a 25 to 50 ppm N application of potassium nitrate after sowing.
(m) Level 3-4 **(t)** 68-75°F (20-24°C) **(l)** 6 $mol \cdot m^{-2} \cdot d^{-1}$, 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)** 10-12 $mol \cdot m^{-2} \cdot d^{-1}$, 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 $mol \cdot m^{-2} \cdot d^{-1}$, 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 $mol \cdot m^{-2} \cdot d^{-1}$, 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 $mol \cdot m^{-2} \cdot d^{-1}$, 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 $mol \cdot m^{-2} \cdot d^{-1}$, 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 $mol \cdot m^{-2} \cdot d^{-1}$, 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 $mol \cdot m^{-2} \cdot d^{-1}$, 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 $mol \cdot m^{-2} \cdot d^{-1}$, 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 $mol \cdot m^{-2} \cdot d^{-1}$, 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 $mol \cdot m^{-2} \cdot d^{-1}$, 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 $mol \cdot m^{-2} \cdot d^{-1}$, 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 $mol \cdot m^{-2} \cdot d^{-1}$, 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 $mol \cdot m^{-2} \cdot d^{-1}$, 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 $mol \cdot m^{-2} \cdot d^{-1}$, 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)** 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)** 65-72°F (18-22°C) **(l)** 1,000 f.c. (10,800 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 3 **(t)** 60-65°F (16-18°C) **(l)** 2,500-3,000 f.c. (26,900-32,300 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 2-3 **(t)** 60-65°F (16-18°C) **(l)** 2,500-3,000 f.c. (26,900-32,300 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	Cover thoroughly with coarse vermiculite. Darkness is required for germination.
(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.

CLASS/SERIES	SEED FORM	RECOMMENDED PLUG SIZE	PLUG CROP WEEKS	SEEDS/ CELL	COVER SEED	DAYS TO GERMINATE	INITIAL MEDIA PH/EC	STAGE 1	
PLECTRANTHUS *Plectranthus argentatus* **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 *Portulaca grandiflora* **Happy Hour™ F_1 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 *Portulaca grandiflora* **Happy Trails™ F_1 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 *Primula acaulis* **Heritage Crème F_1**	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 *Primula acaulis* **Optic™ F_1 Series**	PRM	288	5-6	1	Light cover	7-10	5.5-5.8 pH 0.75 mmhos/cm	**(m)** Level 4 **(t)** 64-68°F (18-20°C) **(l)** Optional	
PRIMULA *Primula acaulis* **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 *Portulaca oleracea* **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	
RUELLIA *Ruellia brittoniana* **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	
SALVIA *Salvia splendens* **Flare**	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 *Salvia canariensis* **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 *Salvia splendens* **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 *Salvia splendens* **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 *Salvia splendens* **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 *Salvia splendens* **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	

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)** 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)** 500-1,000 f.c. (5,400-10,800 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 3-4 **(t)** 60-62°F (16-17°C) **(l)** 2,000-2,500 f.c. (21,500-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 3-4 **(t)** 60-62°F (16-17°C) **(l)** 2,000-2,500 f.c. (21,500-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	Avoid too high light levels (> 3.000 f.c.) to prevent leaf damage.
(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) Level 3-4 **(t)** 72-75°F (22-24°C) **(l)** 1,500-2,500 f.c. (16,100-26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 2-4 **(t)** 68-72°F (20-22°C) **(l)** 3,000 f.c. (32,300 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 2-3 **(t)** 62-65°F (17-18°C) **(l)** 3,000 f.c. (32,300 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	Salvia is very sensitive to high salt during early plug stages.
(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 Salvia canariensis 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	Salvia 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	Salvia 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	Salvia 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	Salvia is very sensitive to high salt during early plug stages.

CLASS/SERIES	SEED FORM	RECOMMENDED PLUG SIZE	PLUG CROP WEEKS	SEEDS/ CELL	COVER SEED	DAYS TO GERMINATE	INITIAL MEDIA PH/EC	STAGE 1	
SALVIA INTERSPECIFIC *Salvia longispicata x farinacea* **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	
SCUTELLARIA *Scuttellaria javanica* **Veranda**	RAW	288	6	1	No	6-10	5.5-6.1 pH 0.75 mmhos/cm	**(m)** Level 4 **(t)** 70-75°F (21-24°C) **(l)** Light	
SNAPDRAGON *Antirrhinum majus* **Rocket F_1 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 *Antirrhinum majus* **Snapshot™ F_1 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	
SNAPDRAGON *Antirrhinum majus* **Solstice™ F_1 Series**	RAW	288	5-6	1	Light cover	4-8	5.5-5.8 pH 0.75 mmhos/cm	**(m)** Level 4 **(t)** 64-68°F (18-20°C) **(l)** Optional	
SPILANTHES *Acmella oleracea* **Peek-A-Boo**	COT	288	4-5	1	Light cover	4	5.5-6.3 pH 0.75 mmhos/cm	**(m)** Level 4 **(t)** 72-76°F (22-24°C) **(l)** Light	
STOCK *Matthiola incana* **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	
STOCK *Matthiola incana* **Vintage Series**	RAW	288	4	1	Yes	3-5	5.8-6.2 pH 0.75 mmhos/cm	**(m)** Level 4 **(t)** 68-72°F (20-22°C) **(l)** Optional	
TALINUM *Talinum paniculatum* **Limón**	RAW	288	5	1	Yes	4-5	5.5-6.1 pH 0.75 mmhos/cm	**(m)** Level 4 **(t)** 68-74°F (20-23°C) **(l)** Optional	
TALINUM *Talinum paniculatum* **Verde**	RAW	288	5	1	Yes	6	5.5-6.1 pH 0.75 mmhos/cm	**(m)** Level 4 **(t)** 68-74°F (20-23°C) **(l)** Optional	
THUNBERGIA *Thunbergia alata* **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	
THYMOPHYLLA *Thymophylla tenuiloba* **Golden Dawn**	RAW	288	4-5	2-4	Light cover	7-10	5.8-6.2 pH 0.75 mmhos/cm	**(m)** Level 4 **(t)** 64-68°F (18-20°C) **(l)** Light	

	STAGE 2	STAGE 3	STAGE 4	KEY TIPS
	(m) Level 3-4 **(t)** 68-77°F (20-25°C) **(l)** 1,500-2,500 f.c. (16,100-26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 2-4 **(t)** 68-72°F (20-22°C) **(l)** 3,000 f.c. (32,300 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC **(p)** daminozide 2,500 ppm Spray	**(m)** Level 2-3 **(t)** 62-65°F (17-18°C) **(l)** 3,000 f.c. (32,300 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	Salvia Big Blue is responsive to daminozide 2,500 ppm spray, or ancymidol 5 ppm spray, or paclobutrazol 5 ppm spray. Recommended first application 2 weeks after sow, and repeat in 7-10 days as needed. Rates recommended are for the Midwest, and will need to be adjusted for your location and conditions. Lighting the plug when growing under low DLI and short days (with supplemental and daylength extension) will speed bud set in finish.
	(m) Level 3-4 **(t)** 68-72°F (20-22°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 3-4 **(t)** 68-72°F (20-22°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 2-4 **(t)** 66-70°F (19-21°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	Heat-loving crop; crop time is very dependent on temperature.
	(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)** 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)** 65-72°F (18-22°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 3-4 **(t)** 65-70°F (18-21°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 2-4 **(t)** 62-65°F (17-18°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	Requires light to germinate.
	(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)** 65-68°F (18-20°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 3-4 **(t)** 60-65°F (16-18°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 3 **(t)** 55-60°F (13-16°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	
	(m) Level 3-4 **(t)** 68-72°F (20-22°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 2-4 **(t)** 66-70°F (19-21°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 2-4 **(t)** 66-68°F (19-20°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	
	(m) Level 3-4 **(t)** 68-72°F (20-22°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 2-4 **(t)** 66-70°F (19-21°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 2-4 **(t)** 66-68°F (19-20°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	
	(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.
				Pre-cool 1 week at 50°F (10°C), then 64-68°F (18 to 20°C). Lowering temperature after germination results in more compact seedlings.

CLASS/SERIES	SEED FORM	RECOMMENDED PLUG SIZE	PLUG CROP WEEKS	SEEDS/ CELL	COVER SEED	DAYS TO GERMINATE	INITIAL MEDIA PH/EC	STAGE 1	
TORENIA *Torenia fournieri* **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 *Verbena x hybrida* **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 *Verbena x hybrida* **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 *Catharanthus roseus* **Mediterranean 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 *Catharanthus roseus* **Mediterranean 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 *Catharanthus roseus* **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 *Catharanthus roseus* **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 *Catharanthus roseus* **Titan™ F_1 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 *Catharanthus roseus* **Valiant™ F_1 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 *Viola cornuta* **Frizzle Sizzle Mini F_1 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 **(t)** 68-73°F (20-23°C) **(l)** 2,500 f.c. (26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 3-4 **(t)** 68-70°F (20-21°C) **(l)** 2,500 f.c. (26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 3-4 **(t)** 65-67°F (18-19°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	
(m) Level 4 **(t)** 70-72°F (21-22°C) **(l)** 1,500-2,500 f.c. (16,100-26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 3-4 **(t)** 68-70°F (20-21°C) **(l)** 1,500-2,500 f.c. (16,100-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 3-4 **(t)** 68-70°F (20-21°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	Avoid excessive moisture in plug media during germination Stage 1. If needed, 1 to 3 applications of B-Nine/Alar (daminozide) at 1,250 ppm (1.5 g/l 85% formulation or 2 g/l 64% formulation) spray has been tested and shown to be effective. In warmer climates, it is also possible to apply A-rest (ancymidol) at 10 ppm (37.6 ml/l, 0.0264% formulation) as a foliar spray.
(m) Level 4 **(t)** 70-72°F (21-22°C) **(l)** 1,500-2,500 f.c. (16,100-26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 3-4 **(t)** 68-70°F (20-21°C) **(l)** 1,500-2,500 f.c. (16,100-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 3-4 **(t)** 68-70°F (20-21°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	Avoid excessive moisture in plug media during germination Stage 1. If needed, 1 to 3 applications of B-Nine/Alar (daminozide) at 1,250 ppm (1.5 g/l 85% formulation or 2 g/l 64% formulation) spray has been tested and shown to be effective. In warmer climates, it is also possible to apply A-rest (ancymidol) at 10 ppm (37.6 ml/l, 0.0264% formulation) as a foliar spray.
(m) Level 3-4 **(t)** 70-72°F (21-22°C) **(l)** 2,500 f.c. (26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 2-4 **(t)** 70-72°F (21-22°C) **(l)** 2,500 f.c. (26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 2-4 **(t)** 70-72°F (21-22°C) **(l)** 5,000 f.c. (53,800 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	Bottom heat during production can increase yield potential and decrease crop time.
(m) Level 3-4 **(t)** 70-72°F (21-22°C) **(l)** 2,500 f.c. (26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 2-4 **(t)** 70-72°F (21-22°C) **(l)** 2,500 f.c. (26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 2-4 **(t)** 70-72°F (21-22°C) **(l)** 5,000 f.c. (53,800 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	Bottom heat during production can increase yield potential and decrease crop time.
(m) Level 3-4 **(t)** 70-72°F (21-22°C) **(l)** 2,500 f.c. (26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 2-4 **(t)** 70-72°F (21-22°C) **(l)** 2,500 f.c. (26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC **(p)** ancymidol 2-5 ppm Spray	**(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	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.
(m) Level 3-4 **(t)** 70-72°F (21-22°C) **(l)** 2,500 f.c. (26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 2-4 **(t)** 70-72°F (21-22°C) **(l)** 2,500 f.c. (26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC **(p)** ancymidol 2-5 ppm Spray	**(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	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.
(m) Level 3-4 **(t)** 70-72°F (21-22°C) **(l)** 2,500 f.c. (26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 2-4 **(t)** 70-72°F (21-22°C) **(l)** 2,500 f.c. (26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 2-4 **(t)** 70-72°F (21-22°C) **(l)** 5,000 f.c. (53,800 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	Bottom heat during production can increase yield potential and decrease crop time.
(m) Level 3-4 **(t)** 70-72°F (21-22°C) **(l)** 2,500 f.c. (26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 2-3 **(t)** 70-72°F (21-22°C) **(l)** 2,500 f.c. (26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC **(p)** ancymidol 2-5 ppm Spray	**(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	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.
(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.

CLASS/SERIES	SEED FORM	RECOMMENDED PLUG SIZE	PLUG CROP WEEKS	SEEDS/ CELL	COVER SEED	DAYS TO GERMINATE	INITIAL MEDIA PH/EC	STAGE 1	
VIOLA *Viola cornuta* **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	
VIOLA *Viola cornuta* **Sorbet® 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 *Viola cornuta* **Sorbet® 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	
ZINNIA *Zinnia marylandica* **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 *Zinnia angustifolia* **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 *Zinnia elegans (syn. Zinnia violaceae)* **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 *Zinnia marylandica* **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 *Zinnia elegans (syn. Zinnia violaceae)* **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
	(m) Level 3-4 **(t)** 60-70°F (16-21°C) **(l)** 2,500 f.c. (26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 3-4 **(t)** 60-65°F (16-18°C) **(l)** 2,500 f.c. (26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC **(p)** ancymidol 5-10 ppm Spray **or** daminozide 1,500-2,500 ppm Spray	**(m)** Level 2-4 **(t)** 55-60°F (13-16°C) **(l)** 5,000 f.c. (53,800 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC **(p)** ancymidol 5-10 ppm Spray **or** daminozide 1,500-2,500 ppm Spray	Adjust PGR rates and frequency of application depending on local conditions in Stages 3 and 4
	(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)** 60-70°F (16-21°C) **(l)** 2,500 f.c. (26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 3-4 **(t)** 60-65°F (16-18°C) **(l)** 2,500 f.c. (26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC **(p)** ancymidol 5-10 ppm Spray **or** daminozide 1,500-2,500 ppm Spray	**(m)** Level 2-4 **(t)** 55-60°F (13-16°C) **(l)** 5,000 f.c. (53,800 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC **(p)** ancymidol 5-10 ppm Spray **or** daminozide 1,500-2,500 ppm Spray	Adjust PGR rates and frequency of application depending on local conditions in Stages 3 and 4.
	(m) Level 3-4 **(t)** 68-76°F (20-24°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 3-4 **(t)** 68-76°F (20-24°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC **(p)** daminozide 1,250-2,500 ppm Spray	**(m)** Level 3 **(t)** 65-70°F (18-21°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	Avoid excessive moisture on plants and flowers. Monitor for Botrytis.
	(m) Level 3-4 **(t)** 70-75°F (21-24°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 3-4 **(t)** 70-75°F (21-24°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC **(p)** daminozide 1,250-2,500 ppm Spray	**(m)** Level 3 **(t)** 65-70°F (18-21°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	Avoid excessive moisture on plants and flowers. Monitor for Botrytis.
	(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 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	**(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	Do not hold the plugs too long, as this may cause delay in flowering.

CLASS/SERIES	RECOMMENDED PLUG SIZE	GROWING ON TEMPERATURE (DAYS/NIGHTS)	TARGET MEDIA PH/EC	DAYLENGTH	
ABUTILON *Abutilon x hybridum* **Bella™ Series**	288	**(day)** 65-70°F (18-21°C) **(night)** 60-65°F (16-18°C)	5.5-6.5 pH 1.2-1.5 mmhos/cm	Day Neutral	
AGERATUM *Ageratum houstonianum* **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 *Alternanthera dentata* **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 *Alternanthera brasiliana* **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 *Lobularia maritima* **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 *Lobularia maritima* **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 *Lobularia maritima* **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 *Angelonia angustifolia* **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 *Angelonia angustifolia* **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	
ASTER *Callistephus chinesis* **Pot 'N Patio Series**	288	**(day)** 65-75°F (18-24°C) **(night)** 55-65°F (13-18°C)	5.8-6.2 pH 1.0-1.5 mmhos/cm	Facultative Short Day	
BACOPA *Sutera cordata* **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 *Sutera cordata* **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 *Sutera cordata* **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 *Begonia x hybrida* **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	

	FINISHING PROGRAMS	KEY TIPS
	4"/4.5"/Quart, 1 (ppp), 6-8 (weeks), Spring, **PGR** paclobutrazol 5 ppm Spray **5"/6"/1 Gallon**, 2-3 (ppp), 7-10 (weeks), Spring, **PGR** paclobutrazol 5 ppm Spray	Space plants adequately to get the best branching and the showiest plants.
	306 Pack, 1 (ppp), 7-9 (weeks), Late Spring, **PGR** daminozide 2,500-3,500 ppm Spray **4"/4.5"/Quart**, 1 (ppp), 7-9 (weeks), Late Spring, **PGR** daminozide 2,500-3,500 ppm Spray **5"/6"/1 Gallon**, 1-3 (ppp), 7-9 (weeks), Late Spring, **PGR** daminozide 2,500-3,500 ppm Spray	
	306 Pack, 1 (ppp), 7-8 (weeks), Spring, **PGR** daminozide 2,500-5,000 ppm Spray **306 Pack**, 1 (ppp), 7-8 (weeks), Spring, **PGR** paclobutrazol 15-20 ppm Spray **4"/4.5"/Quart**, 1 (ppp), 7-8 (weeks), Spring, **PGR** daminozide 2,500-5,000 ppm Spray **4"/4.5"/Quart**, 1 (ppp), 7-8 (weeks), Spring, **PGR** paclobutrazol 15-20 ppm Spray **5"/6"/1 Gallon**, 3 (ppp), 8-9 (weeks), Spring, **PGR** daminozide 2,500-5,000 ppm Spray **5"/6"/1 Gallon**, 3 (ppp), 8-9 (weeks), Spring, **PGR** paclobutrazol 15-20 ppm Spray	Grow plants with daylength longer than 12 hours to maintain vegetative growth. Growing under high light conditions will result in deeper purple foliage.
	306 Pack, 1 (ppp), 7-8 (weeks), Spring, **PGR** daminozide 2,500-5,000 ppm Spray **306 Pack**, 1 (ppp), 7-8 (weeks), Spring, **PGR** paclobutrazol 15-20 ppm Spray **4"/4.5"/Quart**, 1 (ppp), 7-8 (weeks), Spring, **PGR** daminozide 2,500-5,000 ppm Spray **4"/4.5"/Quart**, 1 (ppp), 7-8 (weeks), Spring, **PGR** paclobutrazol 15-20 ppm Spray **5"/6"/1 Gallon**, 3 (ppp), 8-9 (weeks), Spring, **PGR** daminozide 2,500-5,000 ppm Spray **5"/6"/1 Gallon**, 3 (ppp), 8-9 (weeks), Spring, **PGR** paclobutrazol 15-20 ppm Spray	Alternanthera Purple Prince is grown for its burgundy foliage. Grow plants with daylength longer than 12 hours to maintain vegetative growth. Growing under high light conditions will result in deeper purple foliage. Pinching is not needed.
	306 Pack, 1 (ppp), 4-6 (weeks), Late Spring **4"/4.5"/Quart**, 1 (ppp), 7 (weeks), Late Spring	Cool-season crop can be grown with little or no heat. Grow outdoors or at cool night temperatures for best colour development.
	Cell Pack, 1 (ppp), 5 (weeks), Late Spring	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.
	306 Pack, 1 (ppp), 6-7 (weeks), Late Spring **4"/4.5"/Quart**, 1 (ppp), 6-7 (weeks), Late Spring	Cool-season crop can be grown with little or no heat. Grow outdoors or at cool night temperatures for best colour development.
	306 Pack, 1 (ppp), 8-9 (weeks), Late Spring, **PGR** daminozide/chlormequat chloride tank mix 2,500/750-2,500/1,000 ppm Spray **4"/4.5"/Quart**, 1 (ppp), 9-10 (weeks), Late Spring, **PGR** daminozide/chlormequat chloride tank mix 2,500/750-2,500/1,000 ppm Spray	Angelonia grows slowly when the temperature is below 64°F (18°C). Recommended DLI range of 12 to 24 mol·m^{-2}·d^{-1}. If growing in warmer climates, a paclobutrzol drench of 5-10 ppm can be applied 2 weeks after transplant instead of the daminozide/chlormequate chloride tank mix. Do not pinch plants. Pinching will result in uneven plant habit and a delay of flowering.
	306 Pack, 1 (ppp), 8-9 (weeks), Late Spring, **PGR** daminozide/chlormequat chloride tank mix 2,500/500-2,500/750 ppm Spray **4"/4.5"/Quart**, 1 (ppp), 9-10 (weeks), Late Spring, **PGR** daminozide/chlormequat chloride tank mix 2,500/500-2,500/750 ppm Spray	Angelonia grows slowly when the temperature is below 64°F (18°C). Recommended DLI range of 12 to 24 mol·m^{-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/chlormequate chloride tank mix. Do not pinch plants. Pinching will result in uneven plant habit and a delay of flowering.
	Cell Pack, 1 (ppp), 8 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 8 (weeks), Spring	Flowers just 90 days from sowing during short days of Winter and early Spring.
	4"/4.5"/Quart, 1 (ppp), 4-6 (weeks), Spring, **PGR** daminozide 2,500 ppm Spray **10" Pot or HB/3 Gallon**, 5-6 (ppp), 8-9 (weeks), Spring, **PGR** daminozide 2,500 ppm Spray	Use of PGRs or growing outdoors will give a much more controlled plant. Be sure to water multi-seed pellets thoroughly and give light for best germination. Avoid both excessive watering and drought. Do not let plants wilt, as this will result in flower/bud drop.
	4"/4.5"/Quart, 1 (ppp), 4-6 (weeks), Spring, **PGR** daminozide 2,500 ppm Spray **10" Pot or HB/3 Gallon**, 5-6 (ppp), 8-9 (weeks), Spring, **PGR** daminozide 2,500 ppm Spray	Use of PGRs or growing outdoors will give a much more controlled plant. Be sure to water multi-seed pellets thoroughly and give light for best germination. Avoid both excessive watering and drought. Do not let plants wilt, as this will result in flower/bud drop.
	4"/4.5"/Quart, 1 (ppp), 4-6 (weeks), Spring, **PGR** daminozide 2,500 ppm Spray **10" Pot or HB/3 Gallon**, 5-6 (ppp), 8-9 (weeks), Spring, **PGR** daminozide 2,500 ppm Spray	Use of PGRs or growing outdoors will give a much more controlled plant. Be sure to water multi-seed pellets thoroughly and give light for best germination. Avoid both excessive watering and drought. Do not let plants wilt, as this will result in flower/bud drop.
	4"/4.5"/Quart, 1 (ppp), 6-8 (weeks), Spring **5"/6"/1 Gallon**, 1-2 (ppp), 6-8 (weeks), Spring **12" Pot or HB/5 Gallon**, 3-4 (ppp), 6-8 (weeks), Spring	After transplant, if necessary, a very light spray of a tank mix of Cycocel 300 ppm and B-Nine 2,500 ppm can be used.

CLASS/SERIES	RECOMMENDED PLUG SIZE	GROWING ON TEMPERATURE (DAYS/NIGHTS)	TARGET MEDIA PH/EC	DAYLENGTH
BEGONIA *Begonia x hybrida* **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 *Begonia x hybrida* **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.
BEGONIA *Begonia interspecific* **Megawatt™ F₁ 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 (TUBEROUS) *Begonia x tuberosa* **AmeriHybrid® Picotee F₁ 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) *Begonia x tuberosa* **AmeriHybrid® Roseform F₁ 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) *Begonia x tuberosa* **AmeriHybrid® Ruffled F₁ 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) *Begonia x tuberosa* **On Top® F₁ 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) *Begonia x tuberosa* **Sun Dancer™ F₁ 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.
CALIBRACHOA *Calibrachoa x hybrida* **Crave™ F₁ Series**	288 128	**(day)** 64-75°F (18-24°C) **(night)** 55-64°F (13-18°C)	5.5-5.8 pH 1.5-2.0 mmhos/cm	Obligate Long Day 12 hours. DLI of 10 to 25 moles· m^{-2}·d^{-1}.
CALIBRACHOA *Calibrachoa x hybrida* **Kabloom™ F₁ Series**	288 128	**(day)** 64-75°F (18-24°C) **(night)** 55-64°F (13-18°C)	5.5-5.8 pH 1.5-2.0 mmhos/cm	Obligate Long Day 10 hours for Kabloom Yellow; 10.5 hours for Kabloom White Improved, Kabloom Orange and Kabloom Blue; 11 hours for Kabloom Denim, Kabloom Pink, Kabloom Cherry and Kabloom Coral; 11.5 hours for Kabloom Light Pink Blast. Target DLI of 10 to 25 moles· m^{-2}·d^{-1}.
CELOSIA *Celosia cristata* **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 *Celosia plumosa* **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

FINISHING PROGRAMS	KEY TIPS
5"/6"/1 Gallon, 1 (ppp), 7-9 (weeks), Late Spring **8"/2 Gallon**, 3 (ppp), 8-10 (weeks), Late Spring	Dragon Wing will flower faster under short day conditions. After transplant, use Bonzi 3 to 5 ppm spray for height control when needed.
4"/4.5"/Quart, 1 (ppp), 5-6 (weeks), Summer **5"/6"/1 Gallon**, 2-3 (ppp), 5-6 (weeks), Summer **8"/2 Gallon**, 3 (ppp), 7-8 (weeks), Summer **12" Pot or HB/5 Gallon**, 3-4 (ppp), 9-11 (weeks), Summer	To avoid flowering as a foliage plant, grow under daylength longer than 11 hours.
5"/6"/1 Gallon, 1 (ppp), 7-9 (weeks), Late Spring **5"/6"/1 Gallon**, 1 (ppp), 7-10 (weeks), Summer **12" Pot or HB/5 Gallon**, 3 (ppp), 9-11 (weeks), Summer	All Megawatt varieties flower faster under daylength of 12 hours or shorter. Longer daylength could delay flowering 4 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.
5"/6"/1 Gallon, 1 (ppp), 11-13 (weeks), Spring, **PGR** chlormequat chloride 300-500 ppm Spray **12" Pot or HB/5 Gallon**, 4 (ppp), 14-15 (weeks), Spring, **PGR** chlormequat chloride 300-500 ppm Spray	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.
5"/6"/1 Gallon, 1 (ppp), 11-13 (weeks), Spring, **PGR** chlormequat chloride 300-500 ppm Spray **12" Pot or HB/5 Gallon**, 4 (ppp), 14-15 (weeks), Spring, **PGR** chlormequat chloride 300-500 ppm Spray	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.
5"/6"/1 Gallon, 1 (ppp), 11-13 (weeks), Spring, **PGR** chlormequat chloride 300-500 ppm Spray **12" Pot or HB/5 Gallon**, 4 (ppp), 14-15 (weeks), Spring, **PGR** chlormequat chloride 300-500 ppm Spray	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.
4"/4.5"/Quart, 1 (ppp), 8-9 (weeks), Spring, **PGR** chlormequat chloride 300-500 ppm Spray **5"/6"/1 Gallon**, 1 (ppp), 9-10 (weeks), Spring, **PGR** chlormequat chloride 300-500 ppm Spray **12" Pot or HB/5 Gallon**, 4 (ppp), 12-13 (weeks), Spring, **PGR** chlormequat chloride 300-500 ppm Spray	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.
5"/6"/1 Gallon, 1 (ppp), 9-10 (weeks), Spring, **PGR** chlormequat chloride 300-500 ppm Spray **10" Pot or HB/3 Gallon**, 3 (ppp), 12-13 (weeks), Spring, **PGR** chlormequat chloride 300-500 ppm Spray **12" Pot or HB/5 Gallon**, 4 (ppp), 12-13 (weeks), Spring, **PGR** chlormequat chloride 300-500 ppm Spray	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.
4"/4.5"/Quart, 1 (ppp), 8-9 (weeks), Spring, **PGR** flurprimidol 2-3 ppm Drench **4"/4.5"/Quart**, 1 (ppp), 8-9 (weeks), Spring, **PGR** paclobutrazol 2-3 ppm Drench **10" Pot or HB/3 Gallon**, 3 (ppp), 9-11 (weeks), Spring, **PGR** flurprimidol 3-4 ppm Drench **10" Pot or HB/3 Gallon**, 3 (ppp), 9-11 (weeks), Spring, **PGR** paclobutrazol 3-4 ppm Drench	Flower colour may shade slightly; under warmer night temperatures, the strawberry colour may become lighter.
4"/4.5"/Quart, 1 (ppp), 7-8 (weeks), Spring, **PGR** flurprimidol 1-2 ppm Drench **4"/4.5"/Quart**, 1 (ppp), 7-8 (weeks), Spring, **PGR** paclobutrazol 1-3 ppm Drench **10" Pot or HB/3 Gallon**, 3 (ppp), 9-11 (weeks), Spring, **PGR** flurprimidol 2-3 ppm Drench **10" Pot or HB/3 Gallon**, 3 (ppp), 9-11 (weeks), Spring, **PGR** paclobutrazol 2-3 ppm Drench **10" Pot or HB/3 Gallon**, 3 (ppp), 5-6 (weeks), Summer, **PGR** flurprimidol 2-3 ppm Drench **10" Pot or HB/3 Gallon**, 3 (ppp), 5-6 (weeks), Summer, **PGR** paclobutrazol 2-3 ppm Drench	
5"/6"/1 Gallon, 1 (ppp), 6-9 (weeks), Spring	Flowers fastest between 12 to 14-hour days.
5"/6"/1 Gallon, 1 (ppp), 7-10 (weeks), Spring **5"/6"/1 Gallon**, 1 (ppp), 5-7 (weeks), Summer	First Flame varieties do not need PGRs. If necessary, variety is responsive to B-Nine/Alar (daminozide) spray at 2,000 to 3,000 ppm (2.4 to 3.5 g/l, 85% formulation or 3.1 to 4.7 g/l 64% formulation) depending on weather. Keep media constantly moist to prevent premature flowering. First Flame Purple is around one week faster to flower compared to the rest of the series.

CLASS/SERIES	RECOMMENDED PLUG SIZE	GROWING ON TEMPERATURE (DAYS/NIGHTS)	TARGET MEDIA PH/EC	DAYLENGTH	
CELOSIA *Celosia plumosa* **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™ *Celosia argentea* **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™ *Celosia argentea* **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 *Solenostemon scutellarioides* **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 *Solenostemon scutellarioides* **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	
COLEUS, PREMIUM SHADE *Solenostemon scutellarioides* **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 *Solenostemon scutellarioides* **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 *Solenostemon scutellarioides* **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 *Solenostemon scutellarioides* **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 *Solenostemon scutellarioides* **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 *Solenostemon scutellarioides* **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 *Solenostemon scutellarioides* **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	

FINISHING PROGRAMS	KEY TIPS
306 Pack, 1 (ppp), 6-8 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 7-9 (weeks), Spring **306 Pack**, 1 (ppp), 5-7 (weeks), Summer **4"/4.5"/Quart**, 1 (ppp), 5-7 (weeks), Summer	Keep medium constantly moist and do not allow to dry out. No PGRs are needed. If needed, Celosia Ice Cream is responsive to B-Nine/Alar (daminozide) spray at 2,000 to 3,000 ppm (2.4 to 3.5 g/l, 85% formulation or 3.1 to 4.7 g/l 64% formulation) depending on weather.
5"/6"/1 Gallon, 1 (ppp), 7-10 (weeks), Spring **5"/6"/1 Gallon**, 1 (ppp), 5-7 (weeks), Summer	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.
5"/6"/1 Gallon, 1 (ppp), 7-10 (weeks), Spring **5"/6"/1 Gallon**, 1 (ppp), 5-7 (weeks), Summer	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.
Cell Pack, 1 (ppp), 5-6 (weeks), Spring	Ethephon can be applied to increase branching and control height.
306 Pack, 1 (ppp), 4-5 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 4-5 (weeks), Spring **5"/6"/1 Gallon**, 1 (ppp), 5-6 (weeks), Spring	Ethephon can be applied to increase branching and control height.
306 Pack, 1 (ppp), 4-5 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 4-5 (weeks), Spring **5"/6"/1 Gallon**, 1 (ppp), 5-6 (weeks), Spring	Do not pinch, as it will result in smaller leaves and delay crop time. Ethephon can be applied to increase branching and control height. Growth Regulators: Kong and Kong Jr. are well branched and have short internodes, but because of the large leaves, the plants tend to get too wide and need more space before they get too tall. Growth regulators are generally not needed. But if necessary, B-Nine/Alar (daminozide) 2,500 to 5,000 ppm (3.0 to 6.0 g/l 85% formulation or 4.0 to 8.0 g/l of 64% formulation) can be applied at 2 to 3 weeks after transplanting. Repeat if necessary.
306 Pack, 1 (ppp), 4-5 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 4-5 (weeks), Spring **5"/6"/1 Gallon**, 1 (ppp), 5-6 (weeks), Spring	Ethephon can be applied to increase branching and control height. Do not pinch, as it will result in smaller leaves and delay crop time. Note: Kong Salmon Pink might appear dark bronze under some very low light conditions. Later in the season, and in Summer landscape, colour will appear Salmon Pink. Growth Regulators: Kong and Kong Jr. are well branched and have short internodes, but because of the large leaves, the plants tend to get too wide and need more space before they get too tall. Growth regulators are generally not needed. But if necessary, B-Nine/Alar (daminozide) 2,500 to 5,000 ppm (3.0 to 6.0 g/l 85% formulation or 4.0 to 8.0 g/l of 64% formulation) can be applied at 2 to 3 weeks after transplanting. Repeat if necessary.
306 Pack, 1 (ppp), 4-5 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 4-5 (weeks), Spring **5"/6"/1 Gallon**, 1 (ppp), 5-6 (weeks), Spring	Excessive internode elongation under low light or crowding. Florel (ethephon) can be applied for promoting increased branching and height control if necessary. A rate of 300 ppm (7.69 ml/l 3.9% formulation or 0.63 ml/ l of 48% formulation) at 2 to 3 weeks after transplanting is effective. Florel also delays flowering. Optional PGR: B-Nine/Alar (daminozide) 2,500 to 5,000 ppm (3.0 to 6.0 g/l 85% formulation or 4.0 to 8.0 g/l of 64% formulation) can be applied for height control at 2 to 3 weeks after transplanting. Repeat if necessary.
306 Pack, 1 (ppp), 4-5 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 4-5 (weeks), Spring **5"/6"/1 Gallon**, 1 (ppp), 5-6 (weeks), Spring	Excessive internode elongation under low light or crowding. Florel (ethephon) can be applied for promoting increased branching and height control if necessary. A rate of 300 ppm (7.69 ml/l 3.9% formulation or 0.63 ml/ l of 48% formulation) at 2 to 3 weeks after transplanting is effective. Florel also delays flowering. Optional PGR: B-Nine/Alar (daminozide) 2,500 to 5,000 ppm (3.0 to 6.0 g/l 85% formulation or 4.0 to 8.0 g/l of 64% formulation) can be applied for height control at 2 to 3 weeks after transplanting. Repeat if necessary.
306 Pack, 1 (ppp), 4-5 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 4-5 (weeks), Spring **5"/6"/1 Gallon**, 1 (ppp), 5-6 (weeks), Spring	Excessive internode elongation under low light or crowding. Florel (ethephon) can be applied for promoting increased branching and height control if necessary. A rate of 300 ppm (7.69 ml/l 3.9% formulation or 0.63 ml/ l of 48% formulation) at 2 to 3 weeks after transplanting is effective. Florel also delays flowering. Optional PGR: B-Nine/Alar (daminozide) 2,500 to 5,000 ppm (3.0 to 6.0 g/l 85% formulation or 4.0 to 8.0 g/l of 64% formulation) can be applied for height control at 2 to 3 weeks after transplanting. Repeat if necessary.
306 Pack, 1 (ppp), 4-5 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 4-5 (weeks), Spring **5"/6"/1 Gallon**, 1 (ppp), 5-6 (weeks), Spring	Excessive internode elongation under low light or crowding. Florel (ethephon) can be applied for promoting increased branching and height control if necessary. A rate of 300 ppm (7.69 ml/l 3.9% formulation or 0.63 ml/ l of 48% formulation) at 2 to 3 weeks after transplanting is effective. Florel also delays flowering. Optional PGR: B-Nine/Alar (daminozide) 2,500 to 5,000 ppm (3.0 to 6.0 g/l 85% formulation or 4.0 to 8.0 g/l of 64% formulation) can be applied for height control at 2 to 3 weeks after transplanting. Repeat if necessary.
306 Pack, 1 (ppp), 4-5 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 4-5 (weeks), Spring **5"/6"/1 Gallon**, 1 (ppp), 5-6 (weeks), Spring	Excessive internode elongation under low light or crowding. Florel (ethephon) can be applied for promoting increased branching and height control if necessary. A rate of 300 ppm (7.69 ml/l 3.9% formulation or 0.63 ml/ l of 48% formulation) at 2 to 3 weeks after transplanting is effective. Florel also delays flowering. Optional PGR: B-Nine/Alar (daminozide) 2,500 to 5,000 ppm (3.0 to 6.0 g/l 85% formulation or 4.0 to 8.0 g/l of 64% formulation) can be applied for height control at 2 to 3 weeks after transplanting. Repeat if necessary.

CLASS/SERIES	RECOMMENDED PLUG SIZE	GROWING ON TEMPERATURE (DAYS/NIGHTS)	TARGET MEDIA PH/EC	DAYLENGTH	
COLEUS, PREMIUM SUN *Solenostemon scutellarioides* **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 *Solenostemon scutellarioides* **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	
COLEUS, PREMIUM SUN *Solenostemon scutellarioides* **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 *Solenostemon scutellarioides* **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 *Anemanthele lessoniana* **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 *Carex comans* **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 *Carex comans* **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 *Carex comans* **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 *Carex buchananii* **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® CORYNEPHORUS *Corynephorus canescens* **Spiky Blue**	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 *Festuca cinerea (Festuca glauca)* **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 *Isolepis cernua* **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 *Juncus inflexus* **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 *Juncus tenuis* **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 *Juncus pallidus* **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 *Juncus ensifolius* **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	

	FINISHING PROGRAMS	KEY TIPS
	306 Pack, 1 (ppp), 4-5 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 4-5 (weeks), Spring **5"/6"/1 Gallon**, 1 (ppp), 5-6 (weeks), Spring	Excessive internode elongation under low light or crowding. Florel (ethephon) can be applied for promoting increased branching and height control if necessary. A rate of 300 ppm (7.69 ml/l 3.9% formulation or 0.63 ml/l of 48% formulation) at 2 to 3 weeks after transplanting is effective. Florel also delays flowering. Optional PGR: B-Nine/Alar (daminozide) 2,500 to 5,000 ppm (3.0 to 6.0 g/l 85% formulation or 4.0 to 8.0 g/l of 64% formulation) can be applied for height control at 2 to 3 weeks after transplanting. Repeat if necessary.
	306 Pack, 1 (ppp), 4-5 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 4-5 (weeks), Spring **5"/6"/1 Gallon**, 1 (ppp), 5-6 (weeks), Spring	Excessive internode elongation under low light or crowding. Florel (ethephon) can be applied for promoting increased branching and height control if necessary. A rate of 300 ppm (7.69 ml/l 3.9% formulation or 0.63 ml/l of 48% formulation) at 2 to 3 weeks after transplanting is effective. Florel also delays flowering. Optional PGR: B-Nine/Alar (daminozide) 2,500 to 5,000 ppm (3.0 to 6.0 g/l 85% formulation or 4.0 to 8.0 g/l of 64% formulation) can be applied for height control at 2 to 3 weeks after transplanting. Repeat if necessary.
	306 Pack, 1 (ppp), 4-5 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 4-5 (weeks), Spring **5"/6"/1 Gallon**, 1 (ppp), 5-6 (weeks), Spring	Excessive internode elongation under low light or crowding. Florel (ethephon) can be applied for promoting increased branching and height control if necessary. A rate of 300 ppm (7.69 ml/l 3.9% formulation or 0.63 ml/l of 48% formulation) at 2 to 3 weeks after transplanting is effective. Florel also delays flowering. Optional PGR: B-Nine/Alar (daminozide) 2,500 to 5,000 ppm (3.0 to 6.0 g/l 85% formulation or 4.0 to 8.0 g/l of 64% formulation) can be applied for height control at 2 to 3 weeks after transplanting. Repeat if necessary.
	Cell Pack, 1 (ppp), 4-5 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 4-5 (weeks), Spring **5"/6"/1 Gallon**, 1 (ppp), 5-6 (weeks), Spring	Excessive internode elongation under low light or crowding. Florel (ethephon) can be applied for promoting increased branching and height control if necessary. A rate of 300 ppm (7.69 ml/l 3.9% formulation or 0.63 ml/l of 48% formulation) at 2 to 3 weeks after transplanting is effective. Florel also delays flowering. Optional PGR: B-Nine/Alar (daminozide) 2,500 to 5,000 ppm (3.0 to 6.0 g/l 85% formulation or 4.0 to 8.0 g/l of 64% formulation) can be applied for height control at 2 to 3 weeks after transplanting. Repeat if necessary.
	306 Pack, 1 (ppp), 6-8 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 6-8 (weeks), Spring **5"/6"/1 Gallon**, 1-3 (ppp), 6-8 (weeks), Spring **5"/6"/1 Gallon**, 3 (ppp), 6-8 (weeks), Spring **5"/6"/1 Gallon**, 1 (ppp), 8-10 (weeks), Spring	Colour is better under cool and high light conditions. If temperature permits, it is best to produce Sirocco in outdoor conditions.
	306 Pack, 1 (ppp), 9-10 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 9-10 (weeks), Spring **5"/6"/1 Gallon**, 3 (ppp), 10-11 (weeks), Spring	
	306 Pack, 1 (ppp), 8-9 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 8-9 (weeks), Spring **5"/6"/1 Gallon**, 3 (ppp), 9-10 (weeks), Spring	
	306 Pack, 1 (ppp), 6-7 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 6-7 (weeks), Spring **5"/6"/1 Gallon**, 3 (ppp), 7-8 (weeks), Spring	
	306 Pack, 1 (ppp), 8-9 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 8-9 (weeks), Spring **5"/6"/1 Gallon**, 3 (ppp), 9-10 (weeks), Spring	
	306 Pack, 1 (ppp), 6-7 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 6-7 (weeks), Spring **5"/6"/1 Gallon**, 3 (ppp), 7-8 (weeks), Spring	
	306 Pack, 1 (ppp), 6-7 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 6-7 (weeks), Spring **5"/6"/1 Gallon**, 3 (ppp), 7-8 (weeks), Spring	
	306 Pack, 1 (ppp), 6-7 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 6-7 (weeks), Spring **5"/6"/1 Gallon**, 3 (ppp), 6-7 (weeks), Spring	Sow uncovered at 65°F (18°C) for fastest and most uniform germination; prefers moist soil.
	306 Pack, 1 (ppp), 6-7 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 6-7 (weeks), Spring **5"/6"/1 Gallon**, 1-3 (ppp), 7-8 (weeks), Spring	
	306 Pack, 1 (ppp), 6-7 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 6-7 (weeks), Spring **5"/6"/1 Gallon**, 1-3 (ppp), 7-8 (weeks), Spring	Excellent substitute for Draecena Spike.
	306 Pack, 1 (ppp), 5-6 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 5-6 (weeks), Spring **5"/6"/1 Gallon**, 1-3 (ppp), 6-7 (weeks), Spring	To prevent leaf bending, Bonzi 30 ppm spray can be used.
	306 Pack, 1 (ppp), 7-8 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 7-8 (weeks), Spring **5"/6"/1 Gallon**, 3 (ppp), 8-9 (weeks), Spring	

CLASS/SERIES	RECOMMENDED PLUG SIZE	GROWING ON TEMPERATURE (DAYS/NIGHTS)	TARGET MEDIA PH/EC	DAYLENGTH	
COLORGRASS® JUNCUS *Juncus effusus spiralis* **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		
COLORGRASS® KOELERIA *Koeleria glauca* **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	
COLORGRASS® LUZULA *Luzula nivea* **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 *Stipa tenuissima* **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 *Cosmos bipinnatus* **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 *Cosmos sulphureus* **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 *Cosmos bipinnatus* **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 *Crossandra infundibuliformis* **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 *Cuphea ignea* **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 *Cuphea ramosissima* **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	
CYCLAMEN *Cyclamen persicum* **Dreamscape™ F_1 Series**	288 128	**(day)** 62-64°F (17-18°C) **(night)** 54-59°F (12-15°C)	5.6-5.8 pH 0.8-1.2 mmhos/cm	Day Neutral	
DAHLIA *Dahlia x hybrida* **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 less than 14 hours daylength; growing in 14 hours or more will result in issues with flower initiation.	
DIANTHUS *Dianthus chinensis* **Corona™ F_1 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 *Dianthus barbatus* **Dash™ F_1 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 *Dianthus barbatus interspecific* **Dynasty F_1 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 *Dianthus chinensis x barbatus* **Floral Lace™ F_1 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
	306 Pack, 1 (ppp), 6-7 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 7-8 (weeks), Spring **5"/6"/1 Gallon**, 3 (ppp), 7-8 (weeks), Spring	Do not bury plugs too deeply when transplanting.
	306 Pack, 1 (ppp), 8-9 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 8-9 (weeks), Spring **5"/6"/1 Gallon**, 3 (ppp), 9-10 (weeks), Spring	Make sure plants don't get too wet.
	306 Pack, 1 (ppp), 6-7 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 6-7 (weeks), Spring **5"/6"/1 Gallon**, 3 (ppp), 6-7 (weeks), Spring	Grow relative dry and with low to moderate fertilization, to have optimal upright growth.
	4"/4.5"/Quart, 1 (ppp), 6-7 (weeks), Spring	
	5"/6"/1 Gallon, 1 (ppp), 5-6 (weeks), Spring **5"/6"/1 Gallon**, 1 (ppp), 6-7 (weeks), Summer	Don't grow too wet. This can cause root rot and black foliage. Stretching of plants can be avoided by using damonizide and chlormequat.
	4"/4.5"/Quart, 1 (ppp), 6-7 (weeks), Spring **5"/6"/1 Gallon**, 1 (ppp), 7-8 (weeks), Spring	
	4"/4.5"/Quart, 1 (ppp), 10-11 (weeks), Spring **5"/6"/1 Gallon**, 3 (ppp), 10-11 (weeks), Spring	Best in tropical and semi-tropical climates. For cooler (Northern) growing areas, add 3 weeks to crop time or grow for Summer sales.
	4"/4.5"/Quart, 1 (ppp), 6-7 (weeks), Spring	No pinching required. Well-suited to solo and mixed containers. Also works in indoor plant programs.
	Cell Pack, 1 (ppp), 5-7 (weeks), Spring, **PGR** paclobutrazol 2 ppm Spray **306 Pack**, 1 (ppp), 5-7 (weeks), Spring, **PGR** paclobutrazol 2 ppm Spray **5"/6"/1 Gallon**, 1-3 (ppp), 6-8 (weeks), Spring **10" Pot or HB/3 Gallon**, 3-4 (ppp), 9-10 (weeks), Spring **12" Pot or HB/5 Gallon**, 4-5 (ppp), 10-11 (weeks), Spring	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.
	5"/6"/1 Gallon, 1 (ppp), 18-20 (weeks), Autumn	Use of 80-72 cell plugs will reduce crop time after potting for around 6-7 weeks.
	306 Pack, 1 (ppp), 5-6 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 5-6 (weeks), Spring	Very responsive to B-Nine/Alar. Also responsive to day/night temperature differential (DIF), and plants are shorter with a negative DIF.
	Cell Pack, 1 (ppp), 6-8 (weeks), Late Spring, **PGR** paclobutrazol 10 ppm Spray **4"/4.5"/Quart**, 1 (ppp), 6-8 (weeks), Late Spring, **PGR** paclobutrazol 10 ppm Spray	Grows best under high light intensity and cool nights. Under low DLI, crop time will be delayed.
	4"/4.5"/Quart, 1 (ppp), 9-10 (weeks), Summer, **PGR** paclobutrazol 20 ppm Spray **5"/6"/1 Gallon**, 1-3 (ppp), 9-10 (weeks), Summer, **PGR** paclobutrazol 20 ppm Spray **4"/4.5"/Quart**, 1 (ppp), 11-12 (weeks), Autumn, **PGR** paclobutrazol 20 ppm Spray **5"/6"/1 Gallon**, 1-3 (ppp), 11-12 (weeks), Autumn, **PGR** paclobutrazol 20 ppm Spray	Dash dianthus has a naturally compact plant habit and good basal branching when compared to other barbatus-type dianthus, making it more suitable for container production. Provide 65 to 75°F (18 to 24°C) day temperatures and 60°F (15°C) night temperatures for the first 2 weeks of greenhouse production to establish the plants. Finish at 60 to 70°F (15 to 21°C) days, with nights in the low 50°Fs (11 to 12°C). Lower temperatures can be tolerated as plants mature.
	306 Pack, 1 (ppp), 8-9 (weeks), Late Spring, **PGR** paclobutrazol 15-20 ppm Spray **4"/4.5"/Quart**, 1 (ppp), 8-9 (weeks), Late Spring, **PGR** paclobutrazol 15-20 ppm Spray **5"/6"/1 Gallon**, 1-3 (ppp), 8-9 (weeks), Late Spring, **PGR** paclobutrazol 15-20 ppm Spray	
	Cell Pack, 1 (ppp), 4-5 (weeks), Late Spring, **PGR** paclobutrazol 15-20 ppm Spray **4"/4.5"/Quart**, 1 (ppp), 4-5 (weeks), Late Spring, **PGR** paclobutrazol 15-20 ppm Spray	Height can be controlled by withholding fertilizer, especially phosphorus and ammonium-form nitrogen. Dianthus are responsive to day/night temperature differential (DIF), and are shorter with a negative DIF.

CLASS/SERIES	RECOMMENDED PLUG SIZE	GROWING ON TEMPERATURE (DAYS/NIGHTS)	TARGET MEDIA PH/EC	DAYLENGTH	
DIANTHUS *Dianthus chinensis x barbatus* **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	
DIANTHUS (INTERSPECIFIC) *Dianthus barbatus interspecific* **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 Interspecific Dianthus Jolt is a facultative/ quantitative long day plant and can flower year-round, but it will take slightly longer to flower under short days than long days.	
DICHONDRA *Dichondra repens* **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 *Dichondra argentea* **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 *Cineraria maritima/Senecio cineraria* **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 *Erysimum species* **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 *Euphorbia graminea* **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 *Euphorbia graminea* **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® *Sutera cordata* **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® *Calibrachoa hybrid* **Calibrachoa Series**	128 288	**(day)** 64-75°F (18-24°C) **(night)** 55-64°F (13-18°C)	5.5-5.8 pH 1.5-2.0 mmhos/cm	Facultative Long Day	
FUSEABLES® *Solenostemon scutellariodes* **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	

FINISHING PROGRAMS	KEY TIPS
Cell Pack, 1 (ppp), 4-5 (weeks), Late Spring, **PGR** paclobutrazol 15-20 ppm Spray **4"/4.5"/Quart**, 1 (ppp), 4-5 (weeks), Late Spring, **PGR** paclobutrazol 15-20 ppm Spray **5"/6"/1 Gallon**, 3 (ppp), 4-5 (weeks), Late Spring, **PGR** paclobutrazol 15-20 ppm Spray	
4"/4.5"/Quart, 1 (ppp), 14-18 (weeks), Spring, **PGR** paclobutrazol 20 ppm Spray **5"/6"/1 Gallon**, 1-3 (ppp), 14-18 (weeks), Spring, **PGR** paclobutrazol 20 ppm Spray **4"/4.5"/Quart**, 1 (ppp), 11-13 (weeks), Summer, **PGR** paclobutrazol 20 ppm Spray **5"/6"/1 Gallon**, 1-3 (ppp), 11-13 (weeks), Summer, **PGR** paclobutrazol 20 ppm Spray	Temperature and light intensity have greater impact on flowering, especially during Winter and early Spring. Jolt will benefit from being grown under high light levels and is a facultative/quantitative long-day plant. It can flower under different daylengths, but will take slightly longer to flower under short days than long days. A small percentage (up to 3%) of early off-types can be observed with Jolt dianthus at 4 to 5 weeks from sowing. These plants should be removed/discarded at transplant.
4"/4.5"/Quart, 1 (ppp), 7-8 (weeks), Spring, **PGR** daminozide/chlormequat chloride tank mix 5,000/1,000 ppm Spray **5"/6"/1 Gallon**, 3 (ppp), 7-8 (weeks), Spring, **PGR** daminozide/chlormequat chloride tank mix 5,000/1,000 ppm Spray **12" Pot or HB/5 Gallon**, 5 (ppp), 7-9 (weeks), Spring, **PGR** daminozide/chlormequat chloride tank mix 5,000/1,000 ppm Spray	Grows best in warm and dry conditions. Use light feed. Rinse foliage after feeding to avoid salt burn.
4"/4.5"/Quart, 1 (ppp), 6-7 (weeks), Spring, **PGR** daminozide/chlormequat chloride tank mix 5,000/1,000 ppm Spray **5"/6"/1 Gallon**, 3 (ppp), 7-8 (weeks), Spring, **PGR** daminozide/chlormequat chloride tank mix 5,000/1,000 ppm Spray **12" Pot or HB/5 Gallon**, 5 (ppp), 7-9 (weeks), Spring, **PGR** daminozide/chlormequat chloride tank mix 5,000/1,000 ppm Spray	Grows best in warm and dry conditions. Use light feed. Rinse foliage after feeding to avoid salt burn. Higher light levels result in foliage that is more silver in colour and shorter internodes.
4"/4.5"/Quart, 1 (ppp), 6-8 (weeks), Spring, **PGR** daminozide 5,000 ppm Spray **5"/6"/1 Gallon**, 3 (ppp), 6-8 (weeks), Spring, **PGR** daminozide 5,000 ppm Spray	Pinching not recommended. For height control, use daminozide as needed.
4"/4.5"/Quart, 1 (ppp), 7-8 (weeks), Early Spring, **PGR** daminozide/chlormequat chloride tank mix 2,500/1,000 ppm Spray **4"/4.5"/Quart**, 1 (ppp), 5 (weeks), Autumn, **PGR** paclobutrazol 20 ppm Spray	Erysimum performs well when grown under cooler temperatures.
5"/6"/1 Gallon, 1-2 (ppp), 5-8 (weeks), Spring, **PGR** daminozide 2,500-5,000 ppm Spray **8"/2 Gallon**, 2 (ppp), 6-8 (weeks), Spring, **PGR** daminozide 2,500-5,000 ppm Spray	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.
4"/4.5"/Quart, 1 (ppp), 5-8 (weeks), Spring, **PGR** daminozide 2,500-5,000 ppm Spray **5"/6"/1 Gallon**, 1-2 (ppp), 5-8 (weeks), Spring, **PGR** daminozide 2,500-5,000 ppm Spray **10" Pot or HB/3 Gallon**, 3 (ppp), 6-8 (weeks), Spring, **PGR** daminozide 2,500-5,000 ppm Spray	Do not grow plant at temperature below 62°F (16°C). Stretched plugs can be planted deep for better habit management. Pinching is not necessary. If starting with a daminozide spray for habit control, consider a paclobutrazol spray or low rate drench to finish. Daminozide may delay full flowering, but is helpful early on in developing good branching. Warmer temperatures and higher light will significantly reduce crop times.
5"/6"/1 Gallon, 1 (ppp), 6-7 (weeks), Spring, **PGR** daminozide 1,000-1,500 ppm Spray **8"/2 Gallon**, 3 (ppp), 6-7 (weeks), Spring, **PGR** daminozide 1,000-1,500 ppm Spray **10" Pot or HB/3 Gallon**, 4 (ppp), 6-7 (weeks), Spring, **PGR** daminozide 1,000-1,500 ppm Spray **12" Pot or HB/5 Gallon**, 4 (ppp), 6-7 (weeks), Spring, **PGR** daminozide 1,000-1,500 ppm Spray	Avoid excessive watering and drought. Do not let plants wilt, as this will result in bud drop.
5"/6"/1 Gallon, 1 (ppp), 8-9 (weeks), Spring, **PGR** paclobutrazol 2-3 ppm Drench **8"/2 Gallon**, 1 (ppp), 8-9 (weeks), Spring, **PGR** paclobutrazol 2-3 ppm Drench **10" Pot or HB/3 Gallon**, 1-3 (ppp), 8-11 (weeks), Spring, **PGR** paclobutrazol 2-3 ppm Drench **12" Pot or HB/5 Gallon**, 3 (ppp), 10-11 (weeks), Spring, **PGR** paclobutrazol 2-3 ppm Drench	Juvenility ends at 6 leaves; at that point, growing under 14 hours for 4 weeks induces plants to flower. See GrowerFacts for detailed PGR program and LIP recommendations.
5"/6"/1 Gallon, 1 (ppp), 5-7 (weeks), Spring, **PGR** daminozide 2,500-5,000 ppm Spray **8"/2 Gallon**, 1 (ppp), 5-7 (weeks), Spring, **PGR** daminozide 2,500-5,000 ppm Spray **10" Pot or HB/3 Gallon**, 1-3 (ppp), 5-7 (weeks), Spring, **PGR** daminozide 2,500-5,000 ppm Spray **12" Pot or HB/5 Gallon**, 4-5 (ppp), 5-7 (weeks), Spring, **PGR** daminozide 2,500-5,000 ppm Spray	Coleus are responsive to day/night DIF, and are shorter with a negative DIF. Crowding can result in excessive internode elongation. Ethephon can be applied at 300 ppm 2 to 3 weeks after transplant to promote branching and delay flowering.

CLASS/SERIES	RECOMMENDED PLUG SIZE	GROWING ON TEMPERATURE (DAYS/NIGHTS)	TARGET MEDIA PH/EC	DAYLENGTH	
FUSEABLES® *Viola x wittrockiana* **Pansy F₁ Series**	128 288	**(day)** 62-70°F (17-21°C) **(night)** 55-60°F (13-16°C)	5.5-5.8 pH 1.2-1.5 mmhos/cm	Facultative Long Day	
FUSEABLES® *Petunia x hybrida* **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	
FUSEABLES® *Petunia hybrida, Sutera cordata* **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® *Juncus inflexus – Juncus effusus spiralis* **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		
FUSEABLES® *Juncus inflexus – Juncus effusus spiralis* **Twisted Dart**	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		
FUSEABLES® *Viola cornuta* **Viola Series**	128 288	**(day)** 60-65°F (16-18°C) **(night)** 50-55°F (10-13°C)	5.6-5.8 pH 1.2-1.5 mmhos/cm	Facultative Long Day	
FUSEABLES® *Viola cornuta, Lobularia maritima* **Viola-Alyssum Series**	128 288	**(day)** 60-68°F (16-20°C) **(night)** 50-60°F (10-16°C)	5.6-5.8 pH 1.2-1.5 mmhos/cm		
GAZANIA *Gazania rigens* **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 *Gazania rigens* **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	

	FINISHING PROGRAMS	KEY TIPS
	5"/6"/1 Gallon, 1-3 (ppp), 6-7 (weeks), Early Spring, **PGR** daminozide/chlormequat chloride tank mix 2,500-250 ppm Spray **10" Pot or HB/3 Gallon**, 4 (ppp), 9-10 (weeks), Early Spring, **PGR** daminozide/chlormequat chloride tank mix 2,500-250 ppm Spray **5"/6"/1 Gallon**, 1-3 (ppp), 5-6 (weeks), Autumn, **PGR** daminozide/chlormequat chloride tank mix 5,000-500 ppm Spray **10" Pot or HB/3 Gallon**, 4 (ppp), 7-8 (weeks), Autumn, **PGR** daminozide/chlormequat chloride tank mix 5,000-500 ppm Spray	In heat of Autumn production, a paclobutrazol drench of 0.1 to 0.125 can be used once foliage is covering soil. Consult Cool Wave Production Handbook for more detailed information on scheduling for Autumn and Spring programs and variety-specific PGR information.
	5"/6"/1 Gallon, 1 (ppp), 9-11 (weeks), Spring, **PGR** daminozide 5,000 ppm Spray **8"/2 Gallon**, 1-3 (ppp), 9-11 (weeks), Spring, **PGR** daminozide 5,000 ppm Spray **10" Pot or HB/3 Gallon**, 1-3 (ppp), 10-12 (weeks), Spring, **PGR** daminozide 5,000 ppm Spray **10" Pot or HB/3 Gallon**, 1-3 (ppp), 9-11 (weeks), Spring, **PGR** daminozide 5,000 ppm Spray **12" Pot or HB/5 Gallon**, 4 (ppp), 10-12 (weeks), Spring, **PGR** daminozide 5,000 ppm Spray **5"/6"/1 Gallon**, 1 (ppp), 7-9 (weeks), Summer, **PGR** daminozide 5,000 ppm Spray **8"/2 Gallon**, 1-3 (ppp), 7-9 (weeks), Summer, **PGR** daminozide 5,000 ppm Spray **10" Pot or HB/3 Gallon**, 1-3 (ppp), 8-10 (weeks), Summer, **PGR** daminozide 5,000 ppm Spray **12" Pot or HB/5 Gallon**, 4 (ppp), 8-10 (weeks), Summer, **PGR** daminozide 5,000 ppm Spray	Can use the same PGR regime as that for standard or spreading petunia. Note that Pleasantly Blue responds better to a B-Nine spray than it does to a Bonzi spray or drench, so for this specific Fuseables, the use of B-Nine is preferred. See GrowerFacts for additional culture information.
	5"/6"/1 Gallon, 1 (ppp), 8-11 (weeks), Spring, **PGR** paclobutrazol 2-4 ppm Drench **8"/2 Gallon**, 1 (ppp), 8-11 (weeks), Spring, **PGR** paclobutrazol 2-4 ppm Drench **10" Pot or HB/3 Gallon**, 1-3 (ppp), 10-12 (weeks), Spring, **PGR** paclobutrazol 2-4 ppm Drench **12" Pot or HB/5 Gallon**, 4 (ppp), 10-12 (weeks), Spring, **PGR** paclobutrazol 2-4 ppm Drench **5"/6"/1 Gallon**, 1 (ppp), 7-9 (weeks), Summer, **PGR** paclobutrazol 2-4 ppm Drench **8"/2 Gallon**, 1 (ppp), 7-9 (weeks), Summer, **PGR** paclobutrazol 2-4 ppm Drench **10" Pot or HB/3 Gallon**, 1-3 (ppp), 8-10 (weeks), Summer, **PGR** paclobutrazol 2-4 ppm Drench **12" Pot or HB/5 Gallon**, 4 (ppp), 8-10 (weeks), Summer, **PGR** paclobutrazol 2-4 ppm Drench	Do not use B-Nine/Alar or Topflor for height control, as they will stunt bacopa.
	306 Pack, 1 (ppp), 6-7 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 7-8 (weeks), Spring **5"/6"/1 Gallon**, 1-3 (ppp), 7-8 (weeks), Spring	
	306 Pack, 1 (ppp), 6-7 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 7-8 (weeks), Spring **5"/6"/1 Gallon**, 1-3 (ppp), 7-8 (weeks), Spring	
	5"/6"/1 Gallon, 1 (ppp), 6-8 (weeks), Early Spring, **PGR** daminozide 2,500 ppm Spray **10" Pot or HB/3 Gallon**, 3-4 (ppp), 6-8 (weeks), Early Spring, **PGR** daminozide 2,500 ppm Spray **12" Pot or HB/5 Gallon**, 3-5 (ppp), 6-8 (weeks), Early Spring, **PGR** daminozide 2,500 ppm Spray **5"/6"/1 Gallon**, 1 (ppp), 5-7 (weeks), Autumn, **PGR** ancymidol 5-10 ppm Spray **10" Pot or HB/3 Gallon**, 3-4 (ppp), 5-7 (weeks), Autumn, **PGR** ancymidol 5-10 ppm Spray **12" Pot or HB/5 Gallon**, 3-5 (ppp), 5-7 (weeks), Autumn, **PGR** ancymidol 5-10 ppm Spray	PGR use is dependent on day/night temperatures.
	5"/6"/1 Gallon, 1 (ppp), 5-7 (weeks), Spring **8"/2 Gallon**, 1 (ppp), 5-7 (weeks), Spring **10" Pot or HB/3 Gallon**, 4 (ppp), 5-7 (weeks), Spring **12" Pot or HB/5 Gallon**, 4-5 (ppp), 5-7 (weeks), Spring	
	306 Pack, 1 (ppp), 8-9 (weeks), Late Spring, **PGR** daminozide 3,000 ppm Spray **5"/6"/1 Gallon**, 3 (ppp), 8-9 (weeks), Late Spring, **PGR** daminozide 3,500 ppm Spray **306 Pack**, 1 (ppp), 7-8 (weeks), Summer, **PGR** daminozide 3,000 ppm Spray **5"/6"/1 Gallon**, 3 (ppp), 7-8 (weeks), Summer, **PGR** daminozide 3,500 ppm Spray	Crop time can be influenced by light levels; i.e., when grown in areas with low light levels or during period of low light intensity, crop time could be approx. 3 weeks longer. Plant Growth Regulators: If needed, use B-Nine/Alar (daminozide) at 3,500 ppm (4.2 g/l of 85% formulation or 5.6 g/l of 64% formulation) to tone the crop. One application at 2 to 3 weeks after transplant will be sufficient.
	5"/6"/1 Gallon, 3 (ppp), 9-10 (weeks), Early Spring, **PGR** daminozide 3,500 ppm Spray **5"/6"/1 Gallon**, 3 (ppp), 8-9 (weeks), Summer, **PGR** daminozide 3,500 ppm Spray	Crop time can be influenced by light levels; i.e., when grown in areas with low light levels or during period of low light intensity, crop time could be approx. 3 weeks longer. Plant Growth Regulators: If needed, use B-Nine/Alar (daminozide) at 3,500 ppm (4.2 g/l of 85% formulation or 5.6 g/l of 64% formulation) to tone the crop. One application at 2 to 3 weeks after transplant will be sufficient.

CLASS/SERIES	RECOMMENDED PLUG SIZE	GROWING ON TEMPERATURE (DAYS/NIGHTS)	TARGET MEDIA PH/EC	DAYLENGTH	
GOMPHRENA *Gomphrena pulchella* **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 *Helenium amarum* **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 *Helichrysum microphyllum (Plectostachys serphyllifolia)* **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 *Hibiscus acetosella* **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 *Impatiens walleriana* **Beacon® F_1 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 *Impatiens walleriana* **Dazzler® F_1 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 *Impatiens walleriana* **Impreza™ F_1 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 *Impatiens walleriana* **Super Elfin® F_1 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 *Impatiens walleriana* **Super Elfin® XP F_1 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 (NEW GUINEA) *Impatiens hawkeri* **Divine™ F_1 Series**	288	**(day)** 68-76°F (20-24°C) **(night)** 65-68°F (18-20°C)	6.2-6.5 pH 0.75-1.0 mmhos/cm	Day Neutral	
IRESINE *Iresine herbstii* **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		
ISOTOMA *Isotoma hybrida* **Gemini F_1 Series**	288	**(day)** 60-66°F (16-19°C) **(night)** 54-57°F (12-14°C)	5.8-6.2 pH 1.5-2.0 mmhos/cm	Facultative Long Day	
ISOTOMA *Isotoma axillaris* **Tristar Series**	288	**(day)** 61-65°F (16-18°C) **(night)** 57-61°F (14-16°C)	5.8-6.2 pH 1.5-2.0 mmhos/cm	Facultative Long Day	

FINISHING PROGRAMS	KEY TIPS
5"/6"/1 Gallon, 1 (ppp), 8-9 (weeks), Spring, **PGR** paclobutrazol 4-10 ppm Drench **5"/6"/1 Gallon**, 2-3 (ppp), 8-9 (weeks), Spring, **PGR** paclobutrazol 4-10 ppm Drench	May be grown cooler (50°F/10°C minimum) with additional 2 to 3 weeks crop time. High light, spacing and cooler temperatures will reduce stretching. A paclobutrazol drench at 4 to 10 ppm, 2 to 3 weeks after transplant, is commonly effective in controlling stretch. Paclobutrazol sprays may follow the drench to maintain plant structure.
306 Pack, 1 (ppp), 5-7 (weeks), Spring, **PGR** daminozide 5,000 ppm Spray **4"/4.5"/Quart**, 1 (ppp), 5-7 (weeks), Spring, **PGR** daminozide 5,000 ppm Spray **5"/6"/1 Gallon**, 1 (ppp), 6-8 (weeks), Spring, **PGR** daminozide 5,000 ppm Spray	
306 Pack, 1 (ppp), 8-9 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 8-9 (weeks), Spring **5"/6"/1 Gallon**, 3 (ppp), 9-10 (weeks), Spring	Do not overwater and avoid watering plants late in the day, as constant wet foliage may make the plants susceptible to Botrytis. Does not require pinching.
4"/4.5"/Quart, 1 (ppp), 5-6 (weeks), Spring, **PGR** daminozide/chlormequat chloride tank mix 2,500/300 ppm Spray **4"/4.5"/Quart**, 1 (ppp), 5-6 (weeks), Spring, **PGR** paclobutrazol 5-10 ppm Spray **5"/6"/1 Gallon**, 1 (ppp), 6-8 (weeks), Spring, **PGR** daminozide/chlormequat chloride tank mix 2,500/300 ppm Spray **5"/6"/1 Gallon**, 1 (ppp), 6-8 (weeks), Spring, **PGR** paclobutrazol 5-10 ppm Spray **8"/2 Gallon**, 1 (ppp), 6-8 (weeks), Spring, **PGR** daminozide/chlormequat chloride tank mix 2,500/300 ppm Spray **8"/2 Gallon**, 1 (ppp), 6-8 (weeks), Spring, **PGR** paclobutrazol 5-10 ppm Spray	
Cell Pack, 1 (ppp), 3-4 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 4-5 (weeks), Spring **10" Pot or HB/3 Gallon**, 3-5 (ppp), 8-10 (weeks), Spring	Impatiens will respond to daminozide, paclobutrazol and uniconazol. Monitoring of water and fertilization can help with controlling plant growth and vigour.
Cell Pack, 1 (ppp), 3-4 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 4-5 (weeks), Spring **10" Pot or HB/3 Gallon**, 3-5 (ppp), 8-10 (weeks), Spring	Impatiens will respond to daminozide, paclobutrazol and uniconazol. Monitoring of water and fertilization can help with controlling plant growth and vigour.
Cell Pack, 1 (ppp), 3-4 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 4-5 (weeks), Spring **10" Pot or HB/3 Gallon**, 3-5 (ppp), 8-10 (weeks), Spring	Impatiens will respond to daminozide, paclobutrazol and uniconazol. Monitoring of water and fertilization can help with controlling plant growth and vigour.
Cell Pack, 1 (ppp), 3-4 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 4-5 (weeks), Spring **10" Pot or HB/3 Gallon**, 3-5 (ppp), 8-10 (weeks), Spring	Impatiens will respond to daminozide, paclobutrazol and uniconazol. Monitoring of water and fertilization can help with controlling plant growth and vigour.
Cell Pack, 1 (ppp), 3-4 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 4-5 (weeks), Spring **10" Pot or HB/3 Gallon**, 3-5 (ppp), 8-10 (weeks), Spring	Impatiens will respond to daminozide, paclobutrazol and uniconazol. Monitoring of water and fertilization can help with controlling plant growth and vigour.
306 Pack, 1 (ppp), 6-7 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 6-7 (weeks), Spring **5"/6"/1 Gallon**, 1-2 (ppp), 8-9 (weeks), Spring	Drench with a fungicide at transplant. Feed plants moderately. Overfeeding leads to lush, leafy plants at the expense of flowers. 1 or 2 applications of paclobutrazol spray at 2 to 5 ppm can control height without reducing flower size. A paclobutazol drench at 0.125 to 0.25 ppm is also effective, but may stunt less vigorous varieties (See Table 1 for vigour ratings). Start with low rates and adjust as necessary. Negative DIF and DROP work well for New Guinea Impatiens height control. Florel is not needed to promote branching. High vigour: Blue Pearl, Orange Bronze Leaf, Scarlet Bronze Leaf Mid vigour: Lavender Improved, Orange, White, Orchid, Lipstick, Red Low vigour: Violet, Pink, Burgundy
306 Pack, 1 (ppp), 5-6 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 5-6 (weeks), Spring **10" Pot or HB/3 Gallon**, 3 (ppp), 6-7 (weeks), Spring **12" Pot or HB/5 Gallon**, 4-5 (ppp), 6-7 (weeks), Spring	Reddish foliage indicates plants need more feed. High light, especially with low humidity, results in puckered foliage.
306 Pack, 1 (ppp), 9-10 (weeks), Spring, **PGR** daminozide 2,500-3,500 ppm Spray **4"/4.5"/Quart**, 1 (ppp), 9-12 (weeks), Spring, **PGR** daminozide 2,500-3,500 ppm Spray **5"/6"/1 Gallon**, 1-3 (ppp), 12-14 (weeks), Spring, **PGR** daminozide 2,500-3,500 ppm Spray	Prefers to grow in cooler conditions. Warmer temperatures above 70°F (21°C) could delay or inhibit flowering.
306 Pack, 1 (ppp), 9-10 (weeks), Spring, **PGR** daminozide 2,500-3,500 ppm Spray **4"/4.5"/Quart**, 1 (ppp), 9-12 (weeks), Spring, **PGR** daminozide 2,500-3,500 ppm Spray **5"/6"/1 Gallon**, 1-3 (ppp), 12-14 (weeks), Spring, **PGR** daminozide 2,500-3,500 ppm Spray	Prefers to grow in cooler conditions. Warmer temperatures above 70°F (21°C) could delay or inhibit flowering.

CLASS/SERIES	RECOMMENDED PLUG SIZE	GROWING ON TEMPERATURE (DAYS/NIGHTS)	TARGET MEDIA PH/EC	DAYLENGTH
LEYCESTERIA *Leycesteria formosa* **Jealousy**	288	**(day)** 68-75°F (20-24°C) **(night)** 65-67°F (18-19°C)	5.6-6.2 pH 1.2-1.5 mmhos/cm	Obligate Short Day Under short days, plants will flower and develop decorative red berries.
LINARIA *Linaria hybrida* **Enchantment F_1**	288	**(day)** 55-65°F (13-18°C) **(night)** 50-60°F (10-16°C)	5.8-6.2 pH 1.2-1.5 mmhos/cm	Day Neutral
LISIANTHUS *Eustoma grandiflorum* **Florida F_1 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 *Lobelia erinus* **Cambridge 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 *Lobelia erinus* **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 *Lobelia erinus* **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 *Lobelia erinus* **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 *Lobelia erinus* **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) *Tagetes erecta* **Marvel II™ F_1 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) *Tagetes erecta* **Taishan® F_1 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) *Tagetes erecta* **Vanilla F_1**	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.
MARIGOLD (FRENCH) *Tagetes patula* **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) *Tagetes patula* **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) *Tagetes patula* **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) *Tagetes patula* **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) *Tagetes patula* **Gate Orange**	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) *Tagetes patula* **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) *Tagetes patula* **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

	FINISHING PROGRAMS	KEY TIPS
	306 Pack, 1 (ppp), 6-7 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 6-7 (weeks), Spring **5"/6"/1 Gallon**, 3 (ppp), 7-8 (weeks), Spring	The best way to control plant growth with good uniform habit is to pinch or trim the plants down to 3 to 4 leaf pairs. It is most uniform when done two weeks after transplanting. Ensure all the main stems of each plant grow out of the multi-seeded pellets for maximum uniformity.
	306 Pack, 1 (ppp), 6-7 (weeks), Spring, **PGR** paclobutrazol 10 ppm Spray **4"/4.5"/Quart**, 1-3 (ppp), 6-7 (weeks), Spring, **PGR** paclobutrazol 10 ppm Spray	Cool-season crop will benefit from being grown cooler. Paclobutrazol rates of 10 ppm spray 1 week after transplant have shown to control stretch. Use paclobutrazol at rates of up to 20 ppm.
	4"/4.5"/Quart, 1 (ppp), 14-16 (weeks), Spring **5"/6"/1 Gallon**, 1 (ppp), 14-16 (weeks), Spring	Maintain pH of 6.5 to 6.8. Do not allow plugs to become rootbound.
	Cell Pack, 1 (ppp), 8-9 (weeks), Spring	Lighting plants when days are shorter than 12 hours speeds flowering. Light shading helps to produce a better crop when plants are growing under hot weather and long days in late Spring.
	Cell Pack, 1 (ppp), 8-9 (weeks), Spring	Lighting plants when days are shorter than 12 hours speeds flowering. Light shading helps to produce a better crop when plants are growing under hot weather and long days in late Spring.
	Cell Pack, 1 (ppp), 5-6 (weeks), Spring, **PGR** daminozide 3,000-5,000 ppm Spray	Lobelias flower more freely when daylength is longer than 12 hours. Lighting plants when days are shorter than 12 hours speeds flowering. Light shading helps to produce a better crop when plants are growing under hot weather and long days in late Spring.
	10" Pot or HB/3 Gallon, 5-7 (ppp), 8-10 (weeks), Spring, **PGR** daminozide 3,000-5,000 ppm Spray	Lobelias flower more freely when daylength is longer than 12 hours. Lighting plants when days are shorter than 12 hours speeds flowering. Light shading helps to produce a better crop when plants are growing under hot weather and long days in late Spring.
	Cell Pack, 1 (ppp), 5-6 (weeks), Spring, **PGR** daminozide 3,000-5,000 ppm Spray	Lobelias flower more freely when daylength is longer than 12 hours. Lighting plants when days are shorter than 12 hours speeds flowering. Light shading helps to produce a better crop when plants are growing under hot weather and long days in late Spring.
	4"/4.5"/Quart, 1 (ppp), 7-8 (weeks), Spring	Maintain soil pH of 6.2 to 6.5 to avoid iron toxicity. Plant Growth Regulators: PGRs are not required when grown under short days, since plants will finish naturally shorter. Treat with PGRs when grown under long days. Daminozide at 5,000 ppm applied twice as a foliar spray can control the plant growth. In northwestern Europe, use daminozide at 1,300 to 2,000 ppm.
	306 Pack, 1 (ppp), 4-6 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 4-6 (weeks), Spring **306 Pack**, 1 (ppp), 6-7 (weeks), Summer **4"/4.5"/Quart**, 1 (ppp), 6-7 (weeks), Summer	Maintain soil pH of 6.2 to 6.5 to avoid iron toxicity. Plant Growth Regulators: PGRs are not required when grown under short days, since plants will finish naturally shorter. Treat with PGRs when grown under long days. Daminozide at 5,000 ppm applied twice as a foliar spray can control the plant growth. In northwestern Europe, use daminozide at 1,300 to 2,000 ppm.
	4"/4.5"/Quart, 1 (ppp), 7-8 (weeks), Spring	Maintain soil pH of 6.2 to 6.5 to avoid iron toxicity. Plant Growth Regulators: PGRs are not required when grown under short days, since plants will finish naturally shorter. Treat with PGRs when grown under long days. Daminozide at 5,000 ppm applied twice as a foliar spray can control the plant growth. In northwestern Europe, use daminozide at 1,300 to 2,000 ppm.
	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, 1 (ppp), 3-4 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 4-5 (weeks), Spring **10" Pot or HB/3 Gallon**, 5-6 (ppp), 4-6 (weeks), Spring	Maintain soil pH of 6.2 to 6.5 to avoid iron toxicity. Quarts and multi-planted containers with several flowers open provide maximum contrast as blooms mature from red to orange to bronze.
	306 Pack, 1 (ppp), 3-4 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 4-5 (weeks), Spring **10" Pot or HB/3 Gallon**, 5-6 (ppp), 4-6 (weeks), Spring	Maintain soil pH of 6.2 to 6.5 to avoid iron toxicity.
	Cell Pack, 1 (ppp), 4-5 (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.

CLASS/SERIES	RECOMMENDED PLUG SIZE	GROWING ON TEMPERATURE (DAYS/NIGHTS)	TARGET MEDIA PH/EC	DAYLENGTH	
MARIGOLD (FRENCH) *Tagetes patula* **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 *Nemesia foetans* **Poetry™ F_1 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 *Nemesia strumosa* **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 CORN *Zea mays* **Pink Zebra**	72 128	**(day)** 68-85°F (20-29°C) **(night)** 64-68°F (18-20°C)	5.5-6.5 pH 1.5-2.0 mmhos/cm	Ornamental corn will flower earlier during Spring production. Flowering will reduce vegetative growth. Best to sow in Late Spring and Summer when days are longer.	
ORNAMENTAL MILLET *Pennisetum glaucum* **Copper Prince F_1**	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 *Pennisetum glaucum* **Jade Princess F_1**	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 *Pennisetum glaucum* **Jester F_1**	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 *Pennisetum glaucum* **Purple Baron F_1**	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 *Pennisetum glaucum* **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 *Mentha requienii* **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 *Origanum x hybrida* **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.	

FINISHING PROGRAMS	KEY TIPS
306 Pack, 1 (ppp), 3-4 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 4-5 (weeks), Spring **10" Pot or HB/3 Gallon**, 5-6 (ppp), 4-6 (weeks), Spring	Maintain soil pH of 6.2 to 6.4 to avoid iron toxicity. Quarts and multi-planted containers with several blooms open provide maximum contrast as blooms mature from rose to orange to straw colour.
306 Pack, 1 (ppp), 5-7 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 6-8 (weeks), Spring **5"/6"/1 Gallon**, 3 (ppp), 6-8 (weeks), Spring	If necessary, use 2 to 3 applications of daminozide 2,500-5,000 ppm Spray.
4"/4.5"/Quart, 1 (ppp), 8-9 (weeks), Spring	Grow cool, at an optimum temperature of 55°F (13°C).
4"/4.5"/Quart, 1 (ppp), 4-5 (weeks), Late Spring **5"/6"/1 Gallon**, 1 (ppp), 5-6 (weeks), Late Spring **4"/4.5"/Quart**, 1 (ppp), 3-4 (weeks), Autumn **5"/6"/1 Gallon**, 1 (ppp), 4-5 (weeks), Autumn	Foliage will exhibit variegation after 5-6 true leaves emerge. Cool night temperatures between 50-60°F (10-16°C) can change foliage color from green to red purple at salable stage. Best to expose plants to cold just prior to finishing to prevent slow down of growth. Works well in a mix combination, transplant into container 3-4 weeks prior to finish or direct sow 6-7 weeks prior to container finish date. High light levels will increase stem thickness and increase basal tillering. Small pot crop times are based on saleable foliage plants without flower spikes. Dwarf variety will stay compact, but if necessary, Bonzi 5 ppm drench or Topflor 3 ppm drench can be applied 2 weeks after transplant.
5"/6"/1 Gallon, 1-2 (ppp), 12-14 (weeks), Spring **5"/6"/1 Gallon**, 3 (ppp), 9-10 (weeks), Autumn	Plants that are rootbound or stressed due to drought or nutrient deficiency will not perform well. Do not grow below 60°F (16°C). Low temperatures can cause foliage colour to become chlorotic or cause necrosis and flower spike bending. High light results in better basal tillering and stronger stems. When seeds are sown directly to final pot, apply a paclobutrazol drench 6 to 8 ppm at 4 weeks after sow, and repeat if needed 10 days later. When transplanting plugs, use a 3 to 5 ppm paclobutrazol drench at 1 week after transplant. Small pot crop times are based on 68°F (20°C) daily average temperature and saleable foliage plants without flower spikes.
4"/4.5"/Quart, 1 (ppp), 4-5 (weeks), Spring **5"/6"/1 Gallon**, 1-2 (ppp), 12-14 (weeks), Spring **5"/6"/1 Gallon**, 3 (ppp), 9-10 (weeks), Autumn	Plants that are rootbound or stressed due to drought or nutrient deficiency will not perform well. Do not grow below 60°F (16°C). Low temperatures can cause foliage colour to become chlorotic or cause necrosis and flower spike bending. Jade Princess is especially cold sensitive. High light results in better basal tillering and stronger stems. When seeds are sown directly to final pot, apply a paclobutrazol drench 6 to 8 ppm at 4 weeks after sow, and repeat if needed 10 days later. When transplanting plugs, use a 3 to 5 ppm paclobutrazol drench at 1 week after transplant. Small pot crop times are based on 68°F (20°C) daily average temperature and saleable foliage plants without flower spikes.
5"/6"/1 Gallon, 3 (ppp), 11-13 (weeks), Spring, **PGR** paclobutrazol 3-5 ppm Drench **5"/6"/1 Gallon**, 3 (ppp), 9-10 (weeks), Autumn	Plants that are rootbound or stressed due to drought or nutrient deficiency will not perform well. Do not grow below 60°F (16°C). Low temperatures can cause foliage colour to become chlorotic or cause necrosis and flower spike bending. High light results in better basal tillering and stronger stems. When seeds are sown directly to final pot, apply a paclobutrazol drench 6 to 8 ppm at 4 weeks after sow, and repeat if needed 10 days later. When transplanting plugs, use a 3 to 5 ppm paclobutrazol drench at 1 week after transplant. Small pot crop times are based on 68°F (20°C) daily average temperature and saleable foliage plants without flower spikes.
5"/6"/1 Gallon, 3 (ppp), 11-13 (weeks), Spring, **PGR** paclobutrazol 3-5 ppm Drench **5"/6"/1 Gallon**, 3 (ppp), 9-10 (weeks), Autumn	Plants that are rootbound or stressed due to drought or nutrient deficiency will not perform well. Do not grow below 60°F (16°C). Low temperatures can cause foliage colour to become chlorotic or cause necrosis and flower spike bending. High light results in better basal tillering and stronger stems. When seeds are sown directly to final pot, apply a paclobutrazol drench 6 to 8 ppm at 4 weeks after sow, and repeat if needed 10 days later. When transplanting plugs, use a 3 to 5 ppm paclobutrazol drench at 1 week after transplant. Small pot crop times are based on 68°F (20°C) daily average temperature and saleable foliage plants without flower spikes.
5"/6"/1 Gallon, 3 (ppp), 11-13 (weeks), Spring, **PGR** paclobutrazol 3-5 ppm Drench **5"/6"/1 Gallon**, 3 (ppp), 9-10 (weeks), Autumn	Plants that are rootbound or stressed due to drought or nutrient deficiency will not perform well. Do not grow below 60°F (16°C). Low temperatures can cause foliage colour to become chlorotic or cause necrosis and flower spike bending. High light results in better basal tillering and stronger stems. When seeds are sown directly to final pot, apply a paclobutrazol drench 6 to 8 ppm at 4 weeks after sow, and repeat if needed 10 days later. When transplanting plugs, use a 3 to 5 ppm paclobutrazol drench at 1 week after transplant. Small pot crop times are based on 68°F (20°C) daily average temperature and saleable foliage plants without flower spikes.
306 Pack, 1 (ppp), 4-6 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 5-7 (weeks), Spring **5"/6"/1 Gallon**, 1-3 (ppp), 6-8 (weeks), Spring	Consistently maintain media moisture, avoiding excessive wet or dry. Plants grow faster under warmer temperatures. However, under low light conditions, they may stretch if temperature is warmer than 68°F (20°C).
4"/4.5"/Quart, 1 (ppp), 10-12 (weeks), Late Spring, **PGR** daminozide 1,500-2,000 ppm Spray **5"/6"/1 Gallon**, 1 (ppp), 11-13 (weeks), Late Spring, **PGR** daminozide 1,500-2,000 ppm Spray **10" Pot or HB/3 Gallon**, 3-5 (ppp), 12-13 (weeks), Late Spring, **PGR** daminozide 1,500-2,000 ppm Spray **4"/4.5"/Quart**, 1 (ppp), 9-10 (weeks), Summer, **PGR** daminozide 1,500-2,000 ppm Spray **5"/6"/1 Gallon**, 1 (ppp), 9-11 (weeks), Summer, **PGR** daminozide 1,500-2,500 ppm Spray **10" Pot or HB/3 Gallon**, 3-5 (ppp), 10-12 (weeks), Summer, **PGR** daminozide 2,000-2,500 ppm Spray	Needs an active growing climate, grow on dry side, with higher light levels. Best to grow indoors, if you have frequent rain. Apply low to moderate fertilization and moderate irrigation. Let well-drained media dry between watering. Cannot stand wet conditions, will result in stem and root rot. The bracts will develop much deeper purple color when plants are exposed to high light (12 to 15 $mol \cdot m^{-2} \cdot d^{-1}$) 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.

CLASS/SERIES	RECOMMENDED PLUG SIZE	GROWING ON TEMPERATURE (DAYS/NIGHTS)	TARGET MEDIA PH/EC	DAYLENGTH	
OSTEOSPERMUM *Osteospermum ecklonis* **Akila® F₁ 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 *Viola x wittrockiana* **Frizzle Sizzle F₁ 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 *Viola x wittrockiana* **Halloween F₁**	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 *Viola x wittrockiana* **Matrix® F₁ 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 *Viola x wittrockiana* **Panola® F₁ 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 *Viola x wittrockiana* **Panola® XP F₁ 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 *Viola x wittrockiana* **Promise® F₁ 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
306 Pack, 1 (ppp), 10-12 (weeks), Spring, **PGR** daminozide/chlormequat chloride tank mix 2,500/500 ppm Spray **4"/4.5"/Quart**, 1 (ppp), 10-12 (weeks), Spring, **PGR** daminozide/chlormequat chloride tank mix 2,500/500 ppm Spray **5"/6"/1 Gallon**, 1-3 (ppp), 12-14 (weeks), Spring, **PGR** daminozide/chlormequat chloride tank mix 2,500/500 ppm Spray **306 Pack**, 1 (ppp), 7-9 (weeks), Autumn, **PGR** daminozide/chlormequat chloride tank mix 2,500/500 ppm Spray **4"/4.5"/Quart**, 1 (ppp), 7-9 (weeks), Autumn, **PGR** daminozide/chlormequat chloride tank mix 2,500/500 ppm Spray **5"/6"/1 Gallon**, 1-3 (ppp), 9-11 (weeks), Autumn, **PGR** daminozide/chlormequat chloride tank mix 2,500/500 ppm Spray	Supplemental lighting will reduce days to flower. Plants grown under high light and cool conditions may not require PGRs. If needed, apply daminozide/chlormequat chloride 2,500/500 ppm tank mix 2 weeks after transplant. Alternatively, flurprimidol at 10 to 15 ppm spray applied once after transplant will give adequate control.
5"/6"/1 Gallon, 3 (ppp), 6-8 (weeks), Early Spring, **PGR** daminozide/chlormequat chloride tank mix 1,500/150-2,500/250 ppm Spray **10" Pot or HB/3 Gallon**, 7-9 (ppp), 6-8 (weeks), Early Spring, **PGR** daminozide/chlormequat chloride tank mix 1,500/150-2,500/250 ppm Spray **5"/6"/1 Gallon**, 3 (ppp), 4-6 (weeks), Autumn, **PGR** daminozide/chlormequat chloride tank mix 2,500/250-5,000/500 ppm Spray **10" Pot or HB/3 Gallon**, 7-9 (ppp), 4-6 (weeks), Autumn, **PGR** daminozide/chlormequat chloride tank mix 2,500/250-5,000/500 ppm Spray	Adjust PGR rates and frequency of application depending on local conditions. If growing frost-free (northern overwinter culture from Autumn transplant) plan for crop times of 16 to 18 weeks from transplant to finish. For maximum ruffled edge, schedule for late Autumn, Winter and Spring programs. Heat reduces the ruffled edge and colour contrast.
Cell Pack, 1 (ppp), 4-5 (weeks), Autumn, **PGR** daminozide/chlormequat chloride tank mix 2,500/250-5,000/500 ppm Spray **Cell Pack**, 1 (ppp), 4-5 (weeks), Autumn, **PGR** paclobutrazol 0.125 ppm Drench **4"/4.5"/Quart**, 1 (ppp), 5-6 (weeks), Autumn, **PGR** daminozide/chlormequat chloride tank mix 2,500/250-5,000/500 ppm Spray **4"/4.5"/Quart**, 1 (ppp), 5-6 (weeks), Autumn, **PGR** paclobutrazol 0.125 ppm Drench **10" Pot or HB/3 Gallon**, 7-9 (ppp), 4-5 (weeks), Autumn, **PGR** daminozide/chlormequat chloride tank mix 2,500/250-5,000/500 ppm Spray	Adjust PGR rates and frequency of application depending on local conditions.
Cell Pack, 1 (ppp), 4-5 (weeks), Autumn, **PGR** daminozide/chlormequat chloride tank mix 2,500/250-5,000/500 ppm Spray **Cell Pack**, 1 (ppp), 4-5 (weeks), Autumn, **PGR** paclobutrazol 0.125 ppm Drench **4"/4.5"/Quart**, 1 (ppp), 5-6 (weeks), Autumn, **PGR** daminozide/chlormequat chloride tank mix 2,500/250-5,000/500 ppm Spray **4"/4.5"/Quart**, 1 (ppp), 5-6 (weeks), Autumn, **PGR** paclobutrazol 0.125 ppm Drench **10" Pot or HB/3 Gallon**, 7-9 (ppp), 4-5 (weeks), Autumn, **PGR** daminozide/chlormequat chloride tank mix 2,500/250-5,000/500 ppm Spray	Adjust PGR rates and frequency of application depending on local conditions.
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**, 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 2,500/250-5,000/500 ppm Spray **Cell Pack**, 1 (ppp), 3-4 (weeks), Autumn, **PGR** paclobutrazol 0.1-0.125 ppm Drench **4"/4.5"/Quart**, 1 (ppp), 4-5 (weeks), Autumn, **PGR** daminozide/chlormequat chloride tank mix 2,500/250-5,000/500 ppm Spray **4"/4.5"/Quart**, 1 (ppp), 4-5 (weeks), Autumn, **PGR** paclobutrazol 0.1-0.125 ppm Drench	Adjust PGR rates and frequency of application depending on local conditions. If growing frost-free (northern overwinter culture from Autumn transplant) plan for crop times of 16 to 18 weeks from transplant to finish.
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**, 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**, 1 (ppp), 4-5 (weeks), Autumn, **PGR** daminozide/chlormequat chloride tank mix 2,500/500-5,000/500 ppm Spray **4"/4.5"/Quart**, 1 (ppp), 3-4 (weeks), Autumn, **PGR** paclobutrazol 0.1-0.125 ppm Drench	Adjust PGR rates and frequency of application depending on local conditions. If growing frost-free (northern overwinter culture from Autumn transplant) plan for crop times of 16 to 18 weeks from transplant to finish.
Cell Pack, 1 (ppp), 6-7 (weeks), Early Spring, **PGR** daminozide/chlormequat chloride tank mix 1,500/500 ppm Spray **4"/4.5"/Quart**, 1 (ppp), 6-7 (weeks), Early Spring, **PGR** daminozide/chlormequat chloride tank mix 1,500/500 ppm Spray **10" Pot or HB/3 Gallon**, 7-9 (ppp), 6-7 (weeks), Early Spring, **PGR** daminozide/chlormequat chloride tank mix 1,500/500 ppm Spray	Adjust PGR rates and frequency of application depending on local conditions. If growing frost-free (northern overwinter culture from Autumn transplant) plan for crop times of 17 to 18 weeks from transplant to finish.

CLASS/SERIES	RECOMMENDED PLUG SIZE	GROWING ON TEMPERATURE (DAYS/NIGHTS)	TARGET MEDIA PH/EC	DAYLENGTH	
PANSY *Viola x wittrockiana* **Spring Matrix™ F₁ 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 (SPREADING) *Viola x wittrockiana* **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 *Pentas lanceolata* **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 *Pentas lanceolata* **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 *Pentas lanceolata* **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) *Capsicum annuum* **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) *Capsicum annuum* **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) *Capsicum annuum* **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) *Capsicum annuum* **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) *Capsicum annuum* **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) *Capsicum annuum* **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 *Petunia x hybrida* **Carpet 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 *Petunia x hybrida* **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 *Petunia x hybrida* **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.	

FINISHING PROGRAMS	KEY TIPS
Cell Pack, 1 (ppp), 6-7 (weeks), Early Spring, **PGR** daminozide/chlormequat chloride tank mix 1,500/500 ppm Spray **4"/4.5"/Quart**, 1 (ppp), 6-7 (weeks), Early Spring, **PGR** daminozide/chlormequat chloride tank mix 1,500/500 ppm Spray **10" Pot or HB/3 Gallon**, 7-9 (ppp), 6-7 (weeks), Early Spring, **PGR** daminozide/chlormequat chloride tank mix 1,500/500 ppm Spray	Adjust PGR rates and frequency of application depending on local conditions. If growing frost-free (northern overwinter culture from Autumn transplant) plan for crop times of 17 to 18 weeks from transplant to finish.
5"/6"/1 Gallon, 1-3 (ppp), 6-7 (weeks), Early Spring, **PGR** daminozide/chlormequat chloride tank mix 2,500/250 ppm Spray **10" Pot or HB/3 Gallon**, 4 (ppp), 9-10 (weeks), Early Spring, **PGR** daminozide/chlormequat chloride tank mix 2,500/250 ppm Spray **5"/6"/1 Gallon**, 1-3 (ppp), 5-6 (weeks), Autumn, **PGR** daminozide/chlormequat chloride tank mix 5,000/500 ppm Spray **10" Pot or HB/3 Gallon**, 4 (ppp), 7-8 (weeks), Autumn, **PGR** daminozide/chlormequat chloride tank mix 5,000/500 ppm Spray	In heat of Autumn production, a paclobutrazol drench of 0.1 to 0.125 can be used once foliage is covering soil. Consult Cool Wave Production Handbook for more detailed information on scheduling for Autumn and Spring programs and variety-specific PGR information.
Cell Pack, 1 (ppp), 8-10 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 8-10 (weeks), Spring **5"/6"/1 Gallon**, 2 (ppp), 8-10 (weeks), Spring	High light levels and temperatures will reduce crop time. Pentas will naturally decrease pH levels in the soil and regular monitoring is necessary. Plants that have pH below 6.4 will slow growth, delay flowering, exhibit signs of iron toxicity (foliar necrosis) and calcium/magnesium deficiency (foliar puckering). When needed, a tank mix of daminozide 2,500 to 5,000 ppm and chlormequat 500 to 750 ppm can be used. Paclobutrazol sprays of 5 to 10 ppm are also effective.
Cell Pack, 1 (ppp), 7-8 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 7-8 (weeks), Spring **5"/6"/1 Gallon**, 2 (ppp), 7-8 (weeks), Spring	High light levels and temperatures will reduce crop time. Pentas will naturally decrease pH levels in the soil and regular monitoring is necessary. Plants that have pH below 6.4 will slow growth, delay flowering, exhibit signs of iron toxicity (foliar necrosis) and calcium/magnesium deficiency (foliar puckering). When needed, a tank mix of daminozide 2,500 to 5,000 ppm and chlormequat 500 to 750 ppm can be used. Paclobutrazol sprays of 5 to 10 ppm are also effective.
Cell Pack, 1 (ppp), 7-8 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 7-8 (weeks), Spring **5"/6"/1 Gallon**, 2 (ppp), 7-8 (weeks), Spring	High light levels and temperatures will reduce crop time. Pentas will naturally decrease pH levels in the soil and regular monitoring is necessary. Plants that have pH below 6.4 will slow growth, delay flowering, exhibit signs of iron toxicity (foliar necrosis) and calcium/magnesium deficiency (foliar puckering). Growth Regulators: The Lucky Star series has been bred and selected for natural compactness. When needed, a tank mix of daminozide 2,500 to 5,000 ppm and chlormequat 500 to 750 ppm can be used. Paclobutrazol sprays of 5 to 10 ppm are also effective.
4"/4.5"/Quart, 1 (ppp), 5-6 (weeks), Summer **5"/6"/1 Gallon**, 1-3 (ppp), 6-7 (weeks), Summer **4"/4.5"/Quart**, 1 (ppp), 5-6 (weeks), Autumn **5"/6"/1 Gallon**, 1-3 (ppp), 6-7 (weeks), Autumn	As Black Pearl is used especially for its foliage, crop times reflect finish for foliage, not fruit. Performs best under high light and warm temperatures. Add 4 to 5 weeks for Spring production crop times.
4"/4.5"/Quart, 1 (ppp), 5-6 (weeks), Summer **5"/6"/1 Gallon**, 1-3 (ppp), 6-7 (weeks), Summer **4"/4.5"/Quart**, 1 (ppp), 5-6 (weeks), Autumn **5"/6"/1 Gallon**, 1-3 (ppp), 6-7 (weeks), Autumn	As Calico is used especially for its foliage, crop times reflect finish for foliage, not fruit. Performs best under high light and warm temperatures. Add 4 to 5 weeks for Spring production crop times.
4"/4.5"/Quart, 1 (ppp), 7-13 (weeks), Summer **5"/6"/1 Gallon**, 1-3 (ppp), 7-13 (weeks), Summer **4"/4.5"/Quart**, 1 (ppp), 7-13 (weeks), Autumn **5"/6"/1 Gallon**, 1-3 (ppp), 7-13 (weeks), Autumn	Performs best under high light and warm temperatures. Add 4 to 5 weeks for Spring production crop times.
4"/4.5"/Quart, 1 (ppp), 5-6 (weeks), Summer **5"/6"/1 Gallon**, 1-3 (ppp), 6-7 (weeks), Summer **4"/4.5"/Quart**, 1 (ppp), 5-6 (weeks), Autumn **5"/6"/1 Gallon**, 1-3 (ppp), 6-7 (weeks), Autumn	As Purple Flash is used especially for its foliage, crop times reflect finish for foliage, not fruit. Performs best under high light and warm temperatures. Add 4 to 5 weeks for Spring production crop times.
5"/6"/1 Gallon, 1-3 (ppp), 7-13 (weeks), Summer **5"/6"/1 Gallon**, 1-3 (ppp), 7-13 (weeks), Autumn	Performs best under high light and warm temperatures. Add 4 to 5 weeks for Spring production crop times.
5"/6"/1 Gallon, 1-3 (ppp), 7-13 (weeks), Summer **5"/6"/1 Gallon**, 1-3 (ppp), 7-13 (weeks), Autumn	Performs best under high light and warm temperatures. Add 4 to 5 weeks for Spring production crop times.
Cell Pack, 1 (ppp), 4-5 (weeks), Spring, **PGR** daminozide 2,500-5,000 ppm Spray **10" Pot or HB/3 Gallon**, 3 (ppp), 5-7 (weeks), Spring, **PGR** daminozide 2,500-5,000 ppm Spray	
Cell Pack, 1 (ppp), 5-6 (weeks), Spring, **PGR** daminozide 2,500-5,000 ppm Spray **10" Pot or HB/3 Gallon**, 3 (ppp), 6-7 (weeks), Spring, **PGR** daminozide 2,500-3,500 ppm Spray	
4"/4.5"/Quart, 1 (ppp), 5-6 (weeks), Spring, **PGR** paclobutrazol 2-3 ppm Drench **10" Pot or HB/3 Gallon**, 3 (ppp), 6-7 (weeks), Spring, **PGR** paclobutrazol 2-3 ppm Drench **4"/4.5"/Quart**, 1 (ppp), 3-5 (weeks), Summer, **PGR** paclobutrazol 2-3 ppm Drench	Avoid using daminozide on Black Cherry, as this may impact flower colour. Options include paclobutrzol or flurprimidol.

CLASS/SERIES	RECOMMENDED PLUG SIZE	GROWING ON TEMPERATURE (DAYS/NIGHTS)	TARGET MEDIA PH/EC	DAYLENGTH	
PETUNIA *Petunia x hybrida* **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 *Petunia x hybrida* **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.	
PETUNIA *Petunia x hybrida* **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 sucessfully at 10-hour daylengths.	
PETUNIA *Petunia x hybrida* **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 *Petunia x hybrida* **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 *Petunia x hybrida* **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 *Petunia x hybrida* **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 *Petunia x hybrida* **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 sucessfully at 10-hour daylengths. Crop time is 3 to 6 days faster under longer days.	
PETUNIA *Petunia x hybrida* **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) *Petunia x hybrida* **Bonanza 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) *Petunia x hybrida* **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) *Petunia x hybrida* **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) *Petunia x hybrida* **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	

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

CLASS/SERIES	RECOMMENDED PLUG SIZE	GROWING ON TEMPERATURE (DAYS/NIGHTS)	TARGET MEDIA PH/EC	DAYLENGTH
PETUNIA (DOUBLE) *Petunia x hybrida* **Glorious F$_1$ 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) *Petunia x hybrida* **Pirouette F$_1$ 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) *Petunia x hybrida* **Combo Blue F$_1$**	288 128	**(day)** 61-75°F (16-24°C) **(night)** 57-65°F (14-18°C)	5.8-6.2 pH 1.5-2.0 mmhos/cm	Facultative Long Day Minimum Daylength Required: 10.5 hours
PETUNIA (SPREADING) *Petunia x hybrida* **Easy Wave® F$_1$ 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) *Petunia x hybrida* **Shock Wave® F$_1$ 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
PETUNIA (SPREADING) *Petunia x hybrida* **Tidal Wave® F$_1$ 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) *Petunia x hybrida* **Wave® F$_1$ 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 *Phlox drummondii* **21st Century F$_1$ 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
PHLOX *Phlox drummondii* **Ethnie Series**	288	**(day)** 60-68°F (16-20°C) **(night)** 55-62°F (13-17°C)	5.5-6.2 pH 1.0-1.5 mmhos/cm	Day Neutral
PHLOX *Phlox drummondii* **Grammy Pink & White F$_1$**	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
PHLOX *Phlox drummondii* **Promise Series**	288	**(day)** 60-68°F (16-20°C) **(night)** 55-62°F (13-17°C)	5.5-6.2 pH 1.0-1.5 mmhos/cm	Day Neutral
PLECTRANTHUS *Plectranthus argentatus* **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.

	FINISHING PROGRAMS	KEY TIPS
	4"/4.5"/Quart, 1 (ppp), 6-7 (weeks), Spring **5"/6"/1 Gallon**, 2-3 (ppp), 7-8 (weeks), Spring	Maintain light levels as high as possible (4,000 to 7,000 f.c.). Sensitive to overwatering; allow media to dry slightly before watering. Controlling Height: Once plants are rooted to the sides of the containers, they can be allowed to wilt prior to irrigation to provide some height control. Height can also be controlled by withholding fertilizer, especially phosphorus and ammonium-based nitrogen. Petunias are responsive to day/night temperature differential (DIF), and are shorter with a negative DIF. Florel will promote lateral branching when applied once plants are established. Petunias respond to both B-Nine and Bonzi. A one-time Bonzi drench is effective. Varieties may respond differently to growth regulators.
	4"/4.5"/Quart, 1 (ppp), 6-7 (weeks), Spring **5"/6"/1 Gallon**, 2-3 (ppp), 7-8 (weeks), Spring	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.
		See Plug & Play culture recommendations for finishing Combo Blue. Combo Blue is cold durable.
	306 Pack, 1 (ppp), 6-7 (weeks), Spring, **PGR** paclobutrazol 3-5 ppm Drench **4"/4.5"/Quart**, 1 (ppp), 6-7 (weeks), Spring, **PGR** paclobutrazol 3-5 ppm Drench **10" Pot or HB/3 Gallon**, 3-4 (ppp), 8-9 (weeks), Spring, **PGR** paclobutrazol 3-5 ppm Drench **306 Pack**, 1 (ppp), 4-5 (weeks), Summer, **PGR** paclobutrazol 3-5 ppm Drench **4"/4.5"/Quart**, 1 (ppp), 4-5 (weeks), Summer, **PGR** paclobutrazol 3-5 ppm Drench **10" Pot or HB/3 Gallon**, 3-4 (ppp), 6-7 (weeks), Summer, **PGR** paclobutrazol 3-5 ppm Drench	Daminozide spray of 3,500 to 5,000 ppm 7 to 10 days after transplant promotes branching and controls early stretch. 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 $mol \cdot m^{-2} \cdot d^{-1}$. 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
	306 Pack, 1 (ppp), 5-6 (weeks), Spring, **PGR** paclobutrazol 3-5 ppm Drench **4"/4.5"/Quart**, 1 (ppp), 5-6 (weeks), Spring, **PGR** paclobutrazol 3-5 ppm Drench **10" Pot or HB/3 Gallon**, 3-4 (ppp), 6-8 (weeks), Spring, **PGR** paclobutrazol 3-5 ppm Drench **306 Pack**, 1 (ppp), 4-5 (weeks), Summer, **PGR** paclobutrazol 3-5 ppm Drench **4"/4.5"/Quart**, 1 (ppp), 4-5 (weeks), Summer, **PGR** paclobutrazol 3-5 ppm Drench **10" Pot or HB/3 Gallon**, 3-4 (ppp), 5-6 (weeks), Summer, **PGR** paclobutrazol 3-5 ppm Drench	Daminozide spray of 2,500 to 5,000 ppm 7 to 10 days after transplant promotes branching and controls early stretch. 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 $mol \cdot m^{-2} \cdot d^{-1}$. Cold-Durable Varieties: Denim, Pink Shades, Pink Vein, Purple Tie Dye Cold-Sensitive Varieties: Coral Crush, Deep Purple, Red, Rose
	5"/6"/1 Gallon, 1-3 (ppp), 6-8 (weeks), Spring, **PGR** paclobutrazol 5-8 ppm Drench **8"/2 Gallon**, 1-3 (ppp), 6-8 (weeks), Spring, **PGR** paclobutrazol 5-8 ppm Drench **5"/6"/1 Gallon**, 1-3 (ppp), 4-7 (weeks), Summer, **PGR** paclobutrazol 5-8 ppm Drench **8"/2 Gallon**, 1-3 (ppp), 4-7 (weeks), Summer, **PGR** paclobutrazol 5-8 ppm Drench	Daminozide spray of 3,500 to 5,000 ppm 7 to 10 days after transplant promotes branching and controls early stretch. 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 $mol \cdot m^{-2} \cdot d^{-1}$. Cold-Durable Varieties: Red Velour, Silver
	5"/6"/1 Gallon, 1 (ppp), 7-9 (weeks), Spring, **PGR** paclobutrazol 5-8 ppm Drench **10" Pot or HB/3 Gallon**, 3-4 (ppp), 8-10 (weeks), Spring, **PGR** paclobutrazol 5-8 ppm Drench **5"/6"/1 Gallon**, 1 (ppp), 5-7 (weeks), Summer, **PGR** paclobutrazol 5-8 ppm Drench **10" Pot or HB/3 Gallon**, 3-4 (ppp), 6-8 (weeks), Summer, **PGR** paclobutrazol 5-8 ppm Drench	Daminozide spray of 3,500 to 5,000 ppm 7 to 10 days after transplant promotes branching and controls early stretch. Carmine Velour and Purple Wave are more vigorous than other Wave varieties and can use a paclobutrzol 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 $mol \cdot m^{-2} \cdot d^{-1}$. Cold-Durable Varieties: Carmine Velour, Lavender, Pink, Purple, Purple Classic
	306 Pack, 1 (ppp), 6 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 6 (weeks), Spring **5"/6"/1 Gallon**, 3 (ppp), 7-8 (weeks), Spring	If necessary, paclobutrazol 7.5 to 20 ppm Spray can be applied. Application rate and frequency of applications depends upon growth rate. Daminozide 2,500 ppm Spray is also effective.
	Cell Pack, 1 (ppp), 5-6 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 6-7 (weeks), Spring	If necessary, paclobutrazol 7.5 to 20 ppm Spray can be applied. Application rate and frequency of applications depends upon growth rate. Daminozide 2,500 ppm Spray is also effective.
	306 Pack, 1 (ppp), 6 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 6 (weeks), Spring **5"/6"/1 Gallon**, 3 (ppp), 7-8 (weeks), Spring	Genetically dwarf variety normally does not require PGR. If required, paclubtrazol 7.5 to 10.0 ppm Spray can be applied. Daminozide 2,500 ppm Spray is also effective.
	Cell Pack, 1 (ppp), 6-7 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 7-8 (weeks), Spring	If necessary, paclobutrazol 7.5 to 20 ppm Spray can be applied. Application rate and frequency of applications depends upon growth rate. Daminozide 2,500 ppm Spray is also effective.
	4"/4.5"/Quart, 1 (ppp), 4-6 (weeks), Spring, **PGR** daminozide 2,500-5,000 ppm Spray **10" Pot or HB/3 Gallon**, 3 (ppp), 6-7 (weeks), Spring, **PGR** daminozide 2,500-5,000 ppm Spray	Does not require a pinch. Due to directional stem arching, it is advisable to position plugs with growing shoot facing outward, toward the outside of the container. Repeat PGR application if needed. Higher concentrations of PGR used for small pot and/or low light production.

CLASS/SERIES	RECOMMENDED PLUG SIZE	GROWING ON TEMPERATURE (DAYS/NIGHTS)	TARGET MEDIA PH/EC	DAYLENGTH
PLECTRANTHUS *Plectranthus argentatus* **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 *Portulaca grandiflora* **Happy Hour™ F_1 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 *Portulaca grandiflora* **Happy Trails™ F_1 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 *Primula acaulis* **Heritage Crème F_1**	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 *Primula acaulis* **Optic™ F_1 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
PRIMULA *Primula acaulis* **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 *Portulaca oleracea* **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 *Ruellia brittoniana* **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 *Salvia splendens* **Flare**	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 *Salvia canariensis* **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 *Salvia splendens* **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 *Salvia splendens* **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 *Salvia splendens* **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 *Salvia splendens* **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

FINISHING PROGRAMS	KEY TIPS
4"/4.5"/Quart, 1 (ppp), 8-9 (weeks), Spring, **PGR** daminozide 2,500-5,000 ppm Spray **5"/6"/1 Gallon**, 1-2 (ppp), 9-10 (weeks), Spring, **PGR** daminozide 2,500-5,000 ppm Spray	Does not require a pinch. Repeat PGR application if needed. Higher concentration of PGR is used for small pot and/or low light production.
Cell Pack, 36 (ppp), 5 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 5-6 (weeks), Spring	PGRs are generally not needed unless grown under very warm conditions. Height can be controlled by allowing the soil to dry thoroughly between watering. Plants can be allowed to wilt slightly after the roots reach the side of the container. Height can also be controlled by withholding fertilizer, especially phosphorus and ammonium-based nitrogen.
Cell Pack, 36 (ppp), 5 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 5-6 (weeks), Spring	PGRs are generally not needed unless grown under very warm conditions. Height can be controlled by allowing the soil to dry thoroughly between watering. Plants can be allowed to wilt slightly after the roots reach the side of the container. Height can also be controlled by withholding fertilizer, especially phosphorus and ammonium-based nitrogen.
5"/6"/1 Gallon, 1 (ppp), 15-17 (weeks), Autumn, **PGR** daminozide 2,500-5,000 ppm Spray	Drop temperature after week 5 (when plant has 10 established leaves) to 45 to 48°F (7 to 9°C) day and 35 to 45°F (2° to 7°C) night for bud initiation. After week 11, go back up to growing temperatures for flower development and forcing. Plants can be held at 40 to 45°F (5 to 7°C) for later forcing. Growing-on time in weeks depends on how large a plant is required. A large plant requires a longer time at 60 to 65°F (16 to 18°C) nights. From bud visibility to first opening of flower is approximately 4 to 5 weeks, depending on temperature.
4"/4.5"/Quart, 1 (ppp), 13-15 (weeks), Autumn, **PGR** daminozide 2,500-5,000 ppm Spray	Vernalization can be done when plants have 6 to 10 leaves and a well-established root system. Temperature below 50°F/10°C for 5 to 6 weeks is recommended to get uniform initiation of flower buds. After vernalization go back to recommended day and night temperatures. From bud visibility to first opening of flower is approximately 3 to 4 weeks, depending on temperatures. Optic series needs less cold to initiate flowers compared to competitive series. Vernalization is not necessary for flowering but will improve crop scheduling and uniformity. Keep plants away from Botrytis. Plants are standing often in conditions with low temperatures and high humidity. To avoid Botrytis, make sure that the greenhouse is well-ventilated, and avoid watering and spraying on dark and cold days. It is best is to water or spray early in the day on days with brighter light levels. Try to keep foliage of the plants dry as much as possible.
5"/6"/1 Gallon, 1 (ppp), 15-17 (weeks), Autumn, **PGR** daminozide 2,500-5,000 ppm Spray	Drop temperature after week 5 (when plant has 10 established leaves) to 45 to 48°F (7 to 9°C) day and 35 to 45°F (2° to 7°C) night for bud initiation. After week 11, go back up to growing temperatures for flower development and forcing. Plants can be held at 40 to 45°F (5 to 7°C) for later forcing. Growing-on time in weeks depends on how large a plant is required. A large plant requires a longer time at 60 to 65°F (16 to 18°C) nights. From bud visibility to first opening of flower is approximately 4 to 5 weeks, depending on temperature.
Cell Pack, 1 (ppp), 8-10 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 8-10 (weeks), Spring **5"/6"/1 Gallon**, 2-3 (ppp), 8-10 (weeks), Spring	PGR treatment not needed if produced under low feed, dry watering and high-light conditions. If necessary, Topflor (flurprimidol) 30 ppm (7.9 ml/l, 0.38% formulation) spray can be used at 1 week after transplant. Repeat the spray 2 weeks later. Or Bonzi (paclobutrazol) 5 ppm (1.3 ml/l, 0.4% formulation) drench can be used at 1 week after transplant.
Cell Pack, 1 (ppp), 10 (weeks), Late Spring **4"/4.5"/Quart**, 1 (ppp), 10 (weeks), Late Spring **5"/6"/1 Gallon**, 3 (ppp), 10 (weeks), Late Spring **5"/6"/1 Gallon**, 3 (ppp), 8 (weeks), Summer	
Cell Pack, 1 (ppp), 4-5 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 4-5 (weeks), Spring	Salvia is very sensitive to high salt during early plug stages.
306 Pack, 1 (ppp), 4-5 (weeks), Spring, **PGR** daminozide 2,500 ppm Spray **4"/4.5"/Quart**, 1 (ppp), 5-6 (weeks), Spring, **PGR** daminozide 2,500 ppm Spray **5"/6"/1 Gallon**, 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**, 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**, 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**, 1 (ppp), 4-5 (weeks), Spring	Salvia is very sensitive to high salt during early plug stages.

CLASS/SERIES	RECOMMENDED PLUG SIZE	GROWING ON TEMPERATURE (DAYS/NIGHTS)	TARGET MEDIA PH/EC	DAYLENGTH	
SALVIA INTERSPECIFIC *Salvia longispicata x farinacea* **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 Long Day Crop schedule listed reflects seasonal natural daylength in the northern U.S. Best Spring finish requires lighting to 14-hour optimal daylength for fastest and most uniform flowering response. Use daylength extension only to 14 hours, not night interruption. Big Blue benefits from high light. High DLI can speed flowering by 2-3 weeks. Please see culture research link on our website.	
SCUTELLARIA *Scuttellaria javanica* **Veranda**	288	**(day)** 72-78°F (22-26°C) **(night)** 66-68°F (19-20°C)	5.5-6.2 pH 1.5-2.0 mmhos/cm	Day Neutral	
SNAPDRAGON *Antirrhinum majus* **Rocket F_1 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 *Antirrhinum majus* **Snapshot™ F_1 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	
SNAPDRAGON *Antirrhinum majus* **Solstice™ F_1 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	
SPILANTHES *Acmella oleracea* **Peek-A-Boo**	288	**(day)** 65-75°F (18-24°C) **(night)** 62-65°F (17-18°C)	5.5-6.5 pH 1.5-2.0 mmhos/cm	Day Neutral	
STOCK *Matthiola incana* **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	
STOCK *Matthiola incana* **Vintage Series**	288	**(day)** 60-70°F (16-21°C) **(night)** 50-55°F (10-13°C)	5.8-6.2 pH 1.5-2.0 mmhos/cm	Day Neutral	
TALINUM *Talinum paniculatum* **Limón**	288	**(day)** 66-74°F (19-23°C) **(night)** 62-66°F (17-19°C)	5.5-6.2 pH 1.2-1.5 mmhos/cm	Day Neutral	
TALINUM *Talinum paniculatum* **Verde**	288	**(day)** 66-74°F (19-23°C) **(night)** 62-66°F (17-19°C)	5.5-6.2 pH 1.2-1.5 mmhos/cm	Day Neutral	
THUNBERGIA *Thunbergia alata* **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	
THYMOPHYLLA *Thymophylla tenuiloba* **Golden Dawn**	288	**(day)** 55-65°F (13-18°C) **(night)** 50-60°F (10-16°C)	6.5 pH 0.75-1.2 mmhos/cm	Facultative Long Day	
TORENIA *Torenia fournieri* **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 *Verbena x hybrida* **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	

	FINISHING PROGRAMS	KEY TIPS
	5"/6"/1 Gallon, 1 (ppp), 13-14 (weeks), Late Spring, **PGR** daminozide 2,500 ppm Spray **5"/6"/1 Gallon**, 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.).
	306 Pack, 1 (ppp), 7-10 (weeks), Spring, **PGR** daminozide/chlormequat chloride tank mix 2,500/1,000 ppm Spray **4"/4.5"/Quart**, 1 (ppp), 8-11 (weeks), Spring, **PGR** daminozide/chlormequat chloride tank mix 2,500/1,000 ppm Spray **5"/6"/1 Gallon**, 3 (ppp), 9-12 (weeks), Spring, **PGR** daminozide/chlormequat chloride tank mix 2,500/1,000 ppm Spray	Heat-loving crop; crop time is very dependent on temperature.
	Field grown, 3 (ppp), 13-16 (weeks), Spring	Drench with a fungicide at transplant. Also see Cut Flower section for more details.
	Cell Pack, 1 (ppp), 6 (weeks), Early Spring **4"/4.5"/Quart**, 1 (ppp), 6 (weeks), Early Spring	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.
	Cell Pack, 1 (ppp), 4-6 (weeks), Early Spring **4"/4.5"/Quart**, 1 (ppp), 4-6 (weeks), Early Spring **5"/6"/1 Gallon**, 3 (ppp), 4-6 (weeks), Early Spring **Cell Pack**, 1 (ppp), 9-10 (weeks), Autumn **4"/4.5"/Quart**, 1 (ppp), 9-10 (weeks), Autumn **5"/6"/1 Gallon**, 3 (ppp), 9-10 (weeks), Autumn	Drench with a fungicide at transplant.
	4"/4.5"/Quart, 1 (ppp), 7-8 (weeks), Spring, **PGR** paclobutrazol 15-30 ppm Spray **5"/6"/1 Gallon**, 3 (ppp), 7-8 (weeks), Spring, **PGR** paclobutrazol 15-30 ppm Spray	Do not allow substrate to dry out as leaves become necrotic from drought stress.
	4"/4.5"/Quart, 1 (ppp), 5-7 (weeks), Spring **5"/6"/1 Gallon**, 3 (ppp), 5-7 (weeks), Spring	Best produced under cooler temperatures for uniformity/quality of flowering and plant habit. In general, PGRs are not required, but can apply Daminozide 2,500 to 3,500 ppm foliar spray about 2 weeks after transplant. Note: If unselected plugs are used, expect to see both single and double flowering plants in the crop.
	Cell Pack, 1 (ppp), 7-8 (weeks), Spring, **PGR** daminozide 2,500 ppm Spray **4"/4.5"/Quart**, 1 (ppp), 8-9 (weeks), Spring, **PGR** daminozide 2,500 ppm Spray	
	306 Pack, 1 (ppp), 4-5 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 4-5 (weeks), Spring **5"/6"/1 Gallon**, 3 (ppp), 4-5 (weeks), Spring	For flowers, add 2 weeks to Finish Crop Time.
	306 Pack, 1 (ppp), 4-5 (weeks), Spring, **PGR** daminozide 2,500-3,500 ppm Spray **4"/4.5"/Quart**, 1 (ppp), 4-5 (weeks), Spring, **PGR** daminozide 2,500-3,500 ppm Spray **5"/6"/1 Gallon**, 3 (ppp), 4-5 (weeks), Spring, **PGR** daminozide 2,500-3,500 ppm Spray	For flowers, add 2 weeks to Finish Crop Time.
	4"/4.5"/Quart, 1 (ppp), 4-5 (weeks), Spring **5"/6"/1 Gallon**, 1 (ppp), 8-10 (weeks), Spring	
	5"/6"/1 Gallon, 3 (ppp), 7-8 (weeks), Spring	
	Cell Pack, 1 (ppp), 5-6 (weeks), Spring, **PGR** chlormequat chloride 500-700 ppm Spray **4"/4.5"/Quart**, 1 (ppp), 6-7 (weeks), Spring, **PGR** chlormequat chloride 500-750 ppm Spray	No pinch needed. Growth Regulators: Cycocel (chlormequat) can be used at rate of 500 to 750 ppm (4.2 to 6.4 ml/l 11.8% formulation or 0.7 to 1.0 g/l of 75% formulation) at two weeks after transplant; repeat as necessary. Bonzi (paclobutrazol) 20 to 30 ppm (5.0 to 7.5 ml/l, 0.4% formulation) spray also works but is slightly less effective than Cycocel. Avoid using B-Nine/Alar or tank mix of B-Nine/Cycocel as B-Nine will bleach flower colour to become less intense. B-Nine will also delay flower timing.
	Cell Pack, 1 (ppp), 6-8 (weeks), Spring **Cell Pack**, 1 (ppp), 5-7 (weeks), Summer	Growth Regulators: For warm climates B-Nine/Alar (daminozide) at 3,500 ppm applied as foliar spray or 2 applications of A-Rest (ancymidol) at 20 ppm as a foliar spray. For Northern European conditions 2 to 3 applications plus 3,200 B-Nine/Alar at 3,200 ppm plus Cycocel (chormequat) at 375 ppm is recommended.

CLASS/SERIES	RECOMMENDED PLUG SIZE	GROWING ON TEMPERATURE (DAYS/NIGHTS)	TARGET MEDIA PH/EC	DAYLENGTH	
VERBENA *Verbena x hybrida* **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 *Catharanthus roseus* **Mediterranean 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 *Catharanthus roseus* **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 *Catharanthus roseus* **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 *Catharanthus roseus* **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 *Catharanthus roseus* **Titan™ F_1 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 *Catharanthus roseus* **Valiant™ F_1 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 *Viola cornuta* **Frizzle Sizzle Mini F_1 Series**	288	**(day)** 60-70°F (16-21°C) **(night)** 50-55°F (10-13°C)		Facultative Long Day	
VIOLA *Viola cornuta* **Quicktime™ F_1 Series**	288	**(day)** 60°F (16°C) **(night)** 50-55°F (10-13°C)		Facultative Long Day	
VIOLA *Viola cornuta* **Sorbet® F_1 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	

	FINISHING PROGRAMS	KEY TIPS
	Cell Pack, 1 (ppp), 6-8 (weeks), Spring **Cell Pack**, 1 (ppp), 5-7 (weeks), Summer	Growth Regulators: For warm climates B-Nine/Alar (daminozide) at 3,500 ppm applied as foliar spray or 2 applications of A-Rest (ancymidol) at 20 ppm as a foliar spray. For Northern European conditions 2 to 3 applications plus 3,200 B-Nine/Alar at 3,200 ppm plus Cycocel (chormequat) at 375 ppm is recommended.
	4"/4.5"/Quart, 1 (ppp), 8-9 (weeks), Spring, **PGR** daminozide 2,500 ppm Spray **10" Pot or HB/3 Gallon**, 7 (ppp), 12-14 (weeks), Spring, **PGR** daminozide 2,500 ppm Spray **4"/4.5"/Quart**, 1 (ppp), 5-6 (weeks), Summer, **PGR** daminozide 2,500 ppm Spray **10" Pot or HB/3 Gallon**, 7 (ppp), 8-10 (weeks), Summer, **PGR** daminozide 2,500 ppm Spray	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.
	4"/4.5"/Quart, 1 (ppp), 8-9 (weeks), Spring, **PGR** daminozide 2,500 ppm Spray **10" Pot or HB/3 Gallon**, 7 (ppp), 12-14 (weeks), Spring, **PGR** daminozide 2,500 ppm Spray **4"/4.5"/Quart**, 1 (ppp), 5-6 (weeks), Summer, **PGR** daminozide 2,500 ppm Spray **10" Pot or HB/3 Gallon**, 7 (ppp), 8-10 (weeks), Summer, **PGR** daminozide 2,500 ppm Spray	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.
	Cell Pack, 1 (ppp), 5-6 (weeks), Spring, **PGR** daminozide 2,500 ppm Spray **4"/4.5"/Quart**, 1-3 (ppp), 5-7 (weeks), Spring, **PGR** daminozide 2,500 ppm Spray	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.
	Cell Pack, 1 (ppp), 5-6 (weeks), Spring, **PGR** daminozide 2,500 ppm Spray **4"/4.5"/Quart**, 1 (ppp), 6-7 (weeks), Spring, **PGR** daminozide 2,500 ppm Spray **5"/6"/1 Gallon**, 1-3 (ppp), 6-8 (weeks), Spring, **PGR** daminozide 2,500 ppm Spray	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.
	Cell Pack, 1 (ppp), 3-4 (weeks), Spring, **PGR** daminozide 2,500 ppm Spray **4"/4.5"/Quart**, 1 (ppp), 4-5 (weeks), Spring, **PGR** daminozide 2,500 ppm Spray **5"/6"/1 Gallon**, 3 (ppp), 4-6 (weeks), Spring, **PGR** daminozide 2,500 ppm Spray	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.
	Cell Pack, 1 (ppp), 3-4 (weeks), Spring, **PGR** daminozide 2,500 ppm Spray **4"/4.5"/Quart**, 1 (ppp), 4-5 (weeks), Spring, **PGR** daminozide 2,500 ppm Spray **5"/6"/1 Gallon**, 3 (ppp), 4-6 (weeks), Spring, **PGR** daminozide 2,500 ppm Spray	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.
	Cell Pack, 1 (ppp), 6-7 (weeks), Early Spring, **PGR** daminozide 1,500-2,500 ppm Spray **4"/4.5"/Quart**, 1 (ppp), 6-7 (weeks), Early Spring, **PGR** daminozide 1,500-2,500 ppm Spray **5"/6"/1 Gallon**, 3 (ppp), 6-7 (weeks), Early Spring, **PGR** daminozide 1,500-2,500 ppm Spray	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.
	Cell Pack, 1 (ppp), 5-6 (weeks), Early Spring, **PGR** daminozide 1,500-2,500 ppm Spray **4"/4.5"/Quart**, 1 (ppp), 5-6 (weeks), Early Spring, **PGR** daminozide 1,500-2,500 ppm Spray **5"/6"/1 Gallon**, 3 (ppp), 5-6 (weeks), Early Spring, **PGR** daminozide 1,500-2,500 ppm Spray	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.
	Cell Pack, 1 (ppp), 5-7 (weeks), Early Spring, **PGR** daminozide 1,500-2,500 ppm Spray **4"/4.5"/Quart**, 1 (ppp), 5-7 (weeks), Early Spring, **PGR** daminozide 1,500-2,500 ppm Spray **5"/6"/1 Gallon**, 3 (ppp), 5-7 (weeks), Early Spring, **PGR** daminozide 1,500-2,500 ppm Spray **Cell Pack**, 1 (ppp), 3 (weeks), Autumn, **PGR** daminozide 2,500-5,000 ppm Spray **4"/4.5"/Quart**, 1 (ppp), 4-5 (weeks), Autumn, **PGR** daminozide 2,500-5,000 ppm Spray **5"/6"/1 Gallon**, 3 (ppp), 3-4 (weeks), Autumn, **PGR** daminozide 2,500-5,000 ppm Spray	Adjust PGR rates and frequency of application depending on local conditions.

CLASS/SERIES	RECOMMENDED PLUG SIZE	GROWING ON TEMPERATURE (DAYS/NIGHTS)	TARGET MEDIA PH/EC	DAYLENGTH	
VIOLA *Viola cornuta* **Sorbet® XP F_1 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 *Zinnia marylandica* **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 *Zinnia angustifolia* **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 *Zinnia elegans (syn. Zinnia violaceae)* **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 *Zinnia marylandica* **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 *Zinnia elegans (syn. Zinnia violaceae)* **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
	Cell Pack, 1 (ppp), 5-7 (weeks), Early Spring, **PGR** daminozide 1,500-2,500 ppm Spray **4"/4.5"/Quart**, 1 (ppp), 5-7 (weeks), Early Spring, **PGR** daminozide 1,500-2,500 ppm Spray **5"/6"/1 Gallon**, 3 (ppp), 5-7 (weeks), Early Spring, **PGR** daminozide 1,500-2,500 ppm Spray **Cell Pack**, 1 (ppp), 3 (weeks), Autumn, **PGR** daminozide 2,500-5,000 ppm Spray **4"/4.5"/Quart**, 1 (ppp), 4-5 (weeks), Autumn, **PGR** daminozide 2,500-5,000 ppm Spray **5"/6"/1 Gallon**, 3 (ppp), 3-4 (weeks), Autumn, **PGR** daminozide 2,500-5,000 ppm Spray	Adjust PGR rates and frequency of application depending on local conditions.
	4"/4.5"/Quart, 1 (ppp), 8-9 (weeks), Spring, **PGR** daminozide 3,500-5,000 ppm Spray **5"/6"/1 Gallon**, 3 (ppp), 8-9 (weeks), Spring, **PGR** daminozide 3,500-5,000 ppm Spray **4"/4.5"/Quart**, 1 (ppp), 5-6 (weeks), Summer, **PGR** daminozide 3,500-5,000 ppm Spray **5"/6"/1 Gallon**, 3 (ppp), 5-6 (weeks), Summer, **PGR** daminozide 3,500-5,000 ppm Spray	Flowers will be more double, with more intense colour, when grown under high light levels. Avoid excessive moisture on plants and flowers. Monitor for Botrytis.
	Cell Pack, 1 (ppp), 5-6 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 6-7 (weeks), Spring	Avoid excessive moisture on plants and flowers. Monitor for Botrytis.
	4"/4.5"/Quart, 1 (ppp), 6-7 (weeks), Spring **5"/6"/1 Gallon**, 1 (ppp), 7-8 (weeks), Spring	Avoid excessive moisture on plants and flowers. Monitor for Botrytis.
	4"/4.5"/Quart, 1 (ppp), 8-9 (weeks), Spring, **PGR** daminozide 3,500 ppm Spray **5"/6"/1 Gallon**, 3 (ppp), 8-9 (weeks), Spring, **PGR** daminozide 3,500 ppm Spray **4"/4.5"/Quart**, 1 (ppp), 5-6 (weeks), Summer, **PGR** daminozide 3,500 ppm Spray **5"/6"/1 Gallon**, 3 (ppp), 5-6 (weeks), Summer, **PGR** daminozide 3,500 ppm Spray	Avoid excessive moisture on plants and flowers. Monitor for Botrytis.
	4"/4.5"/Quart, 1 (ppp), 6-7 (weeks), Spring, **PGR** daminozide 3,500 ppm Spray **5"/6"/1 Gallon**, 1 (ppp), 6-7 (weeks), Spring, **PGR** daminozide 3,500 ppm Spray **4"/4.5"/Quart**, 1 (ppp), 6-7 (weeks), Late Spring, **PGR** paclobutrazol 5 ppm Drench **5"/6"/1 Gallon**, 1 (ppp), 6-7 (weeks), Late Spring, **PGR** paclobutrazol 5 ppm Drench	Growth regulators are recommended for pack and container production. Foliar sprays of daminozide at 3,500 ppm 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.

SEED PRODUCT INFORMATION GUIDE

ANNUALS PROPAGATION GUIDE P. 6 / FINISHING GUIDE P. 46

POTTED PLANTS PROPAGATION GUIDE P. 122 / FINISHING GUIDE P. 134

CUT FLOWERS PROPAGATION GUIDE P. 142 / FINISHING GUIDE P. 152

HANDPICKED VEGETABLES & HERBS PROPAGATION GUIDE P. 162 / FINISHING GUIDE P. 176

KieftSeed™

PERENNIALS

CLASS/SERIES	SEED FORM	RECOMMENDED PLUG SIZE	PLUG CROP WEEKS	SEEDS/ CELL	COVER SEED	DAYS TO GERMINATE	INITIAL MEDIA PH/EC	STAGE 1	
AQUILEGIA *Aquilegia vulgaris* **Clementine™ Series**	PRM	288	7-8	2-3	Light cover	7-12	5.8-6.4 pH 0.75 mmhos/cm	**(m)** Level 4 **(t)** 68-72°F (20-22°C) **(l)** Optional **(f)** Less than 100 ppm N - Less than 0.7 EC	
AQUILEGIA *Aquilegia x hybrida* **Earlybird™ F_1 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 *Aquilegia x hybrida* **Songbird F_1 Series**	RAW	288	6-8	1	Yes	10-14	5.8-6.4 pH 0.75 mmhos/cm	**(m)** Level 4 **(t)** 70-75°F (21-24°C) **(l)** Light **(f)** Less than 100 ppm N - Less than 0.7 EC	
AQUILEGIA *Aquilegia x hybrida* **Swan F_1 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 *Aquilegia vulgaris* **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 **(f)** Less than 100 ppm N - Less than 0.7 EC	
AQUILEGIA *Aquilegia vulgaris* **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 **(f)** Less than 100 ppm N - Less than 0.7 EC	
ARABIS *Arabis blepharophylla* **Barranca™ Series**	RAW	288	6-8	4	No	3-6	5.5-6.5 pH 0.75 mmhos/cm	**(m)** Level 4 **(t)** 68-72°F (20-22°C) **(l)** Optional **(f)** Less than 100 ppm N - Less than 0.7 EC	
ARABIS *Arabis blepharophylla* **Spring Charm**	RAW	288	6-8	4	No	3-6	5.5-6.5 pH 0.75 mmhos/cm	**(m)** Level 4 **(t)** 68-72°F (20-22°C) **(l)** Optional	
ARMERIA *Armeria pseudarmeria* **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 *Aurinia saxatile* **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 **(f)** Less than 100 ppm N - Less than 0.7 EC	
BELLIS *Bellis perennis* **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 **(f)** Less than 100 ppm N - Less than 0.7 EC	

STAGE 2	STAGE 3	STAGE 4	VERNALIZATION REQUIRED	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)** 65-68°F (18-20°C) **(l)** 2,500 f.c. (26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 2 **(t)** 60-65°F (16-18°C) **(l)** 5,000 f.c. (53,800 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	Yes - duration of 10 to 12 weeks; juvenility min. 10 to 12 true leaves	Spray after sowing to prevent fungi.
(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. See "Daylength Notation" for Long Day application guidelines.	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)** 65-70°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)** 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)	Yes - Requires 8 to 10 weeks ADT 50°F (10°C) starting at 10 true leaves	Arabis is a rock garden plant. Provide good drainage and an active climate in high light.
(m) Level 3-4 **(t)** 65-68°F (18-20°C) **(l)** 2,500 f.c. (26,900 Lux)	**(m)** Level 2-3 **(t)** 65-68°F (18-20°C) **(l)** 2,500 f.c. (26,900 Lux)	**(m)** Level 2 **(t)** 60-65°F (16-18°C) **(l)** 5,000 f.c. (53,800 Lux)	Yes - duration of 8 to 10 weeks from 7 to 8 true leaves onwards	
(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.

CLASS/SERIES	SEED FORM	RECOMMENDED PLUG SIZE	PLUG CROP WEEKS	SEEDS/ CELL	COVER SEED	DAYS TO GERMINATE	INITIAL MEDIA PH/EC	STAGE 1	
CAMPANULA *Campanula carpatica* **Rapido F$_1$ 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 **(f)** Less than 100 ppm N - Less than 0.7 EC	
COREOPSIS *Coreopsis grandiflora* **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 **(f)** Less than 100 ppm N - Less than 0.7 EC	
COREOPSIS *Coreopsis grandiflora* **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 **(f)** Less than 100 ppm N - Less than 0.7 EC	
COREOPSIS *Coreopsis grandiflora* **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 **(f)** Less than 100 ppm N - Less than 0.7 EC	
COREOPSIS *Coreopsis grandiflora* **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 **(f)** Less than 100 ppm N - Less than 0.7 EC	
DELPHINIUM *Delphinium x belladonna* **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	
DELPHINIUM *Delphinium elatum* **Dasante Blue F$_1$**	RAW	288	6-7	1	Yes	7-8	5.8-6.2 pH 0.75 mmhos/cm	**(m)** Level 4 **(t)** 65-70°F (18-21°C) **(l)** Optional **(f)** Less than 100 ppm N - Less than 0.7 EC	
DELPHINIUM *Delphinium grandiflorum* **Diamonds Blue F$_1$**	RAW	288	6-7	1	Yes	5-7	5.8-6.0 pH 0.75 mmhos/cm	**(m)** Level 4 **(t)** 65-70°F (18-21°C) **(l)** Optional **(f)** Less than 100 ppm N - Less than 0.7 EC	

	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 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 : 13 hrs. Short Day (10 hours) bulk needed for forcing For forcing info: See Perennials Forcing Guide 1-2 seed for 288/3 to 4 for 84. Plug PGRs: For Spring production, no PGRs needed. For Summer production under long day conditions, can use B-Nine/Alar (1,500 to 2,500 ppm spray). Short day bulk not needed for Autumn sales.
	(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) 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)** 65-68°F (18-20°C) **(l)** 2,000-2,500 f.c. (21,500-26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 2 **(t)** 65-68°F (18-20°C) **(l)** 2,000-2,500 f.c. (21,500-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 2 **(t)** 60-65°F (16-18°C) **(l)** 4,000-5,000 f.c. (43,100-53,800 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	No	For forcing info: See Perennials Forcing Guide. Avoid low light conditions.

CLASS/SERIES	SEED FORM	RECOMMENDED PLUG SIZE	PLUG CROP WEEKS	SEEDS/ CELL	COVER SEED	DAYS TO GERMINATE	INITIAL MEDIA PH/EC	STAGE 1	
DELPHINIUM *Delphinium elatum* **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 **(f)** Less than 100 ppm N - Less than 0.7 EC	
DIANTHUS *Dianthus x barbatus interspecific* **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 *Digitalis purpurea* **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 **(f)** Less than 100 ppm N - Less than 0.7 EC	
ECHINACEA *Echinacea x hybrida* **Artisan™ Collection F₁ Series**	AMP	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 *Echinacea x hybrida* **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 *Echinacea purpurea* **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	
GAILLARDIA *Gaillardia x grandiflora* **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 *Gaura lindheimeri* **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 *Gypsophila cerastioides* **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 **(f)** Less than 100 ppm N - Less than 0.7 EC	

STAGE 2	STAGE 3	STAGE 4	VERNALIZATION REQUIRED	KEY TIPS
(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 $mol \cdot m^{-2} \cdot d^{-1}$ **(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 $mol \cdot m^{-2} \cdot d^{-1}$ **(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 $mol \cdot m^{-2} \cdot d^{-1}$ **(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 $mol \cdot m^{-2} \cdot d^{-1}$ **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 2-4 **(t)** 68-70°F (20-21°C) **(l)** 10 $mol \cdot m^{-2} \cdot d^{-1}$ **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 2-4 **(t)** 65-67°F (18-19°C) **(l)** 10-15 $mol \cdot m^{-2} \cdot d^{-1}$ **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	No - but beneficial	Forcing Protocol: Produce plug or liner to the 2 fully mature leaf stage. At the 2 fully mature leaf stage, begin short day conditions. Continue short day conditions until plants reach at least 7 fully mature leaves. The 72 size for forcing reflects this schedule. For more forcing info: See Perennials Forcing Guide.
(m) Level 3-4 **(t)** 71-73°F (22-23°C) **(l)** 5-8 $mol \cdot m^{-2} \cdot d^{-1}$ **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 2-4 **(t)** 68-70°F (20-21°C) **(l)** 10 $mol \cdot m^{-2} \cdot d^{-1}$ **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 2-4 **(t)** 65-67°F (18-19°C) **(l)** 10-15 $mol \cdot m^{-2} \cdot d^{-1}$ **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	No - but beneficial	Forcing Protocol: Produce plug or liner to the 2 fully mature leaf stage. At the 2 fully mature leaf stage, begin short day conditions. Continue short day conditions until plants reach at least 7 fully mature leaves. The 72 size for forcing reflects this schedule. For more forcing info: See Perennials Forcing Guide.
(m) Level 3-4 **(t)** 71-73°F (22-23°C) **(l)** 5-8 $mol \cdot m^{-2} \cdot d^{-1}$ **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 2-4 **(t)** 68-70°F (20-21°C) **(l)** 10 $mol \cdot m^{-2} \cdot d^{-1}$ **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 2-4 **(t)** 65-67°F (18-19°C) **(l)** 10-15 $mol \cdot m^{-2} \cdot d^{-1}$ **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	No - but beneficial	Forcing Protocol: Produce plug or liner to the 2 fully mature leaf stage. At the 2 fully mature leaf stage, begin short day conditions. Continue short day conditions until plant reaches 7 fully mature leaves. The 72 size for forcing reflects this schedule. For more forcing info: See Perennials Forcing Guide.
(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 $mol \cdot m^{-2} \cdot d^{-1}$ **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 2 **(t)** 60-65°F (16-18°C) **(l)** 6-8 $mol \cdot m^{-2} \cdot d^{-1}$ **(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 $mol \cdot m^{-2} \cdot d^{-1}$	Yes - duration of 8 weeks; max 40°F (4°C)	Spray damp-off fungicide.

CLASS/SERIES	SEED FORM	RECOMMENDED PLUG SIZE	PLUG CROP WEEKS	SEEDS/ CELL	COVER SEED	DAYS TO GERMINATE	INITIAL MEDIA PH/EC	STAGE 1	
HEUCHERA *Heuchera x hybrida* **Melting Fire**	PEL	288 128	9-11 10-11	4-5 6-8	No	9-11	5.8-6.2 pH 0.75 mmhos/cm	**(m)** Level 4 **(t)** 70-72°F (21-22°C) **(l)** Light	
HEUCHERA *Heuchera micrantha* **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 **(f)** Less than 100 ppm N - Less than 0.7 EC	
HIBISCUS *Hibiscus moscheutos* **Luna™ F_1 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 **(f)** Less than 100 ppm N - Less than 0.7 EC	
IBERIS *Iberis sempervirens* **Whiteout**	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 *Lavandula angustifolia* **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 **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	

	STAGE 2	STAGE 3	STAGE 4	VERNALIZATION REQUIRED	KEY TIPS
	(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.

CLASS/SERIES	SEED FORM	RECOMMENDED PLUG SIZE	PLUG CROP WEEKS	SEEDS/ CELL	COVER SEED	DAYS TO GERMINATE	INITIAL MEDIA PH/EC	STAGE 1	
LAVANDULA *Lavandula stoechas* **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 **(f)** Less than 100 ppm N - Less than 0.7 EC	
LAVANDULA *Lavandula angustifolia* **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 **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	
LAVANDULA *Lavandula angustifolia* **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 **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	
LAVANDULA *Lavandula angustifolia* **Lavance 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) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	
LAVANDULA *Lavandula multifida* **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	

	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.

CLASS/SERIES	SEED FORM	RECOMMENDED PLUG SIZE	PLUG CROP WEEKS	SEEDS/ CELL	COVER SEED	DAYS TO GERMINATE	INITIAL MEDIA PH/EC	STAGE 1	
LEUCANTHEMUM *Leucanthemum x superbum* **Madonna F_1**	RAW	288 72	6-7 7-8	1 4	Light cover	4-10	5.5-6.2 pH 0.2-0.5 mmhos/ cm	**(m)** Level 4 **(t)** 65-72°F (18-22°C) **(l)** Optional	
LOBELIA *Lobelia x speciosa* **Starship™ F_1 Series**	PEL	288	8-10	1	Light cover	6-10	5.8-6.2 pH 0.75 mmhos/cm	**(m)** Level 4 **(t)** 65-72°F (18-22°C) **(l)** Light	
MYOSOTIS *Myosotis sylvatica* **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 **(f)** Less than 100 ppm N - Less than 0.7 EC	
NEPETA *Nepeta nervosa* **Blue Moon**	RAW	288	5-6	4	Yes	4-5	5.8-6.5 pH 0.75 mmhos/cm	**(m)** Level 4 **(t)** 65-68°F (18-20°C) **(l)** Optional **(f)** Less than 100 ppm N - Less than 0.7 EC	
NEPETA *Nepeta nervosa* **Pink Cat**	RAW	288	5-6	4	Yes	4-5	5.8-6.5 pH 0.75 mmhos/cm	**(m)** Level 4 **(t)** 65-68°F (18-20°C) **(l)** Optional **(f)** Less than 100 ppm N - Less than 0.7 EC	
PAPAVER *Papaver nudicaule* **Champagne Bubbles F_1 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 **(f)** Less than 100 ppm N - Less than 0.7 EC	
PENSTEMON *Penstemon x mexicali* **Carillo Series**	RAW	288 128	6-8 7-8	3-4 3-4	No	3-6	5.8-6.5 pH 0.75 mmhos/cm	**(m)** Level 4 **(t)** 65-68°F (18-20°C) **(l)** Optional **(f)** Less than 100 ppm N - Less than 0.7 EC	
PENSTEMON *Penstemon heterophyllus* **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 **(f)** Less than 100 ppm N - Less than 0.7 EC	

	STAGE 2	STAGE 3	STAGE 4	VERNALIZATION REQUIRED	KEY TIPS
	(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)** 175 to 225 ppm N - 1.2 to 1.5 EC	No	Avoid high soluble salt level. 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 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 **(p)** daminozide 1,500-2,500 ppm Spray	**(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	No	Critical Daylength: 13 hours. Short day (10 hours) bulk needed for forcing. Spring forcing for Week 19 sales: Use 72 plug. Fall forcing for Week 36 sales: Use 288 plug. For more forcing info: See Perennials Forcing Guide. Needs light for germination, but avoid drying out (light vermiculite cover advised). Grow plugs at 10 hours or less for at least the first 8 weeks from sowing to keep vegetative. Keep 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.
	(m) Level 3 **(t)** 65-68°F (18-20°C) **(l)** 2,000-2,500 f.c. (21,500-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 2 **(t)** 60-65°F (16-18°C) **(l)** 2,000-2,500 f.c. (21,500-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 2 **(t)** 60-65°F (16-18°C) **(l)** 3,000-4,000 f.c. (32,300-43,100 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	No	Maintain low pH to avoid chlorosis.
	(m) Level 3 **(t)** 60-65°F (16-18°C) **(l)** 2,000-2,500 f.c. (21,500-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 2 **(t)** 60-65°F (16-18°C) **(l)** 2,000-2,500 f.c. (21,500-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC **(p)** daminozide 1,000-2,000 ppm Spray	**(m)** Level 2 **(t)** 60-65°F (16-18°C) **(l)** 4,000-5,000 f.c. (43,100-53,800 Lux) **(p)** daminozide 1,500-2,000 ppm Spray	No	Spray damp-off fungicide.
	(m) Level 3 **(t)** 60-65°F (16-18°C) **(l)** 2,000-2,500 f.c. (21,500-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 2 **(t)** 60-65°F (16-18°C) **(l)** 2,000-2,500 f.c. (21,500-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC **(p)** daminozide 1,000-2,000 ppm Spray	**(m)** Level 2 **(t)** 60-65°F (16-18°C) **(l)** 4,000-5,000 f.c. (43,100-53,800 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC **(p)** daminozide 1,500-2,000 ppm Spray	No	Spray damp-off fungicide.
	(m) Level 3 **(t)** 60-65°F (16-18°C) **(l)** 2,000-2,500 f.c. (21,500-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 2 **(t)** 60-65°F (16-18°C) **(l)** 2,000-2,500 f.c. (21,500-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 2 **(t)** 60-65°F (16-18°C) **(l)** 4,000-5,000 f.c. (43,100-53,800 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	No	Spray damp-off fungicide. Avoid high pH (>6.1) that causes chlorosis from iron deficiency.
	(m) Level 3 **(t)** 60-65°F (16-18°C) **(l)** 2,000-2,500 f.c. (21,500-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 3 **(t)** 60-65°F (16-18°C) **(l)** 2,000-2,500 f.c. (21,500-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 3 **(t)** 60-65°F (16-18°C) **(l)** 4,000-5,000 f.c. (43,100-53,800 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	No	Spray damp-off fungicide. Carillo Red will show reversible chlorosis if grown too cold (lower than 50°F/10°C ADT). For info on forcing for Mother's Day (Week 19): See Perennials Forcing Guide.
	(m) Level 3 **(t)** 65-68°F (18-20°C) **(l)** 2,000-2,500 f.c. (21,500-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 2 **(t)** 60-65°F (16-18°C) **(l)** 3,000-4,000 f.c. (32,300-43,100 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 2 **(t)** 60-65°F (16-18°C) **(l)** 4,000-5,000 f.c. (43,100-53,800 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	No - but beneficial; cooled plants flower more uniformly and faster than non-cooled plants; duration of 10 weeks at 41°F (5°C)	Needs active growing climate.

CLASS/SERIES	SEED FORM	RECOMMENDED PLUG SIZE	PLUG CROP WEEKS	SEEDS/ CELL	COVER SEED	DAYS TO GERMINATE	INITIAL MEDIA PH/EC	STAGE 1	
PEROVSKIA *Perovskia atriplicifolia* **Blue Steel**	RAW	288 128	5-9 6-10	1 2-3	Yes	2-4	5.8-6.2 pH 0.75 mmhos/cm	**(m)** Level 4-5 **(t)** 65-72°F (18-22°C) **(l)** Optional **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	
RUDBECKIA *Rudbeckia fulgida var. sullivantii* **Goldsturm**	PRM	288 72	6-8 14	2 2	Yes	5-7	5.8-6.5 pH 0.75 mmhos/cm	**(m)** Level 4 **(t)** 68-72°F (20-22°C) **(l)** Light **(f)** Less than 100 ppm N - Less than 0.7 EC	
SALVIA *Salvia nemorosa* **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 **(f)** Less than 100 ppm N - Less than 0.7 EC	
SALVIA *Salvia patens* **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 **(f)** Less than 100 ppm N - Less than 0.7 EC	
SALVIA *Salvia nemorosa* **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 **(f)** Less than 100 ppm N - Less than 0.7 EC	
SAXIFRAGA *Saxifraga x arendsii* **Rocco Red**	PEL	288	9-10	2	Light cover	7-11	5.8-6.2 pH 0.75 mmhos/cm	**(m)** Level 4-5 **(t)** 65-68°F (18-20°C) **(l)** Dark **(f)** Less than 100 ppm N - Less than 0.7 EC	
SCABIOSA *Scabiosa columbaria* **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 **(f)** Less than 100 ppm N - Less than 0.7 EC	
SCABIOSA *Scabiosa japonica var. alpina* **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 **(f)** Less than 100 ppm N - Less than 0.7 EC	

	STAGE 2	STAGE 3	STAGE 4	VERNALIZATION REQUIRED	KEY TIPS
	(m) Level 4 **(t)** 65-72°F (18-22°C) **(l)** 6-8 $mol \cdot m^{-2} \cdot d^{-1}$ **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC **(p)** daminozide 2,500 ppm Spray	**(m)** Level 3 **(t)** 60-68°F (16-20°C) **(l)** 6-8 $mol \cdot m^{-2} \cdot d^{-1}$ **(f)** 175 to 225 ppm N - 1.2 to 1.5 EC **(p)** daminozide 2,500 ppm Spray	**(m)** Level 2 **(t)** 55-65°F (13-18°C) **(l)** 6-8 $mol \cdot m^{-2} \cdot d^{-1}$ **(f)** 175 to 225 ppm N - 1.2 to 1.5 EC **(p)** daminozide 2,500 ppm Spray	No	Light Accumulator, Daylength Neutral. For forcing info: See Perennials Forcing Guide. 2 to 3 seeds per cell for larger plugs (128 and up): see GrowerFacts. For plug size 180 and larger, pinch* plugs at 3 to 4 node pairs. 288 plugs are difficult to pinch, so pinch at 2 to 3 weeks after transplant. Plug lead time varies with season and plug size: see GrowerFacts. Spray fungicide against damping off, directly after sowing. *For larger (2 gallon and up) containers, plugs do not need to be pinched during plug production or after transplant. Instead, use a stronger PGR, B-Nine at 5,000 ppm 1 or 2 applications at 2 to 3 weeks after transplant.
	(m) Level 3 **(t)** 65-68°F (18-20°C) **(l)** 2,000-2,500 f.c. (21,500-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 2 **(t)** 60-65°F (16-18°C) **(l)** 2,000-2,500 f.c. (21,500-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 2 **(t)** 60-65°F (16-18°C) **(l)** 4,000-5,000 f.c. (43,100-53,800 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	No	Annual program for late Summer flowering: provide 10-hour short days. Bulk from 2 true leaves (approximately 4 weeks after sowing) until 10 true leaves for more uniform flowering. Step up 288 plugs into 72 or 50 cell, maintaining 10-hour short days. For forcing info: See Perennials Forcing Guide.
	(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 1,000-2,000 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 **(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	**(m)** Level 2 **(t)** 60-65°F (16-18°C) **(l)** 4,000-5,000 f.c. (43,100-53,800 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	Yes - duration of 12 weeks at 41°F (5°C)	Spray damp-off fungicide.
	(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.

CLASS/SERIES	SEED FORM	RECOMMENDED PLUG SIZE	PLUG CROP WEEKS	SEEDS/ CELL	COVER SEED	DAYS TO GERMINATE	INITIAL MEDIA PH/EC	STAGE 1	
SILENE *Silene alpestris* **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 **(f)** Less than 100 ppm N - Less than 0.7 EC	
VERBASCUM *Verbascum x hybrida* **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 **(f)** Less than 100 ppm N - Less than 0.7 EC	
VERBENA *Verbena bonariensis* **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 **(f)** Less than 100 ppm N - Less than 0.7 EC	
VERBENA *Verbena rigida* **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 **(f)** Less than 100 ppm N - Less than 0.7 EC	
VERONICA *Veronica spicata* **Blue Bouquet**	PEL	288	5-6	1	Yes	6-9	5.5-6.2 pH 0.75 mmhos/cm	**(m)** Level 4-5 **(t)** 65-75°F (18-24°C) **(l)** Dark **(f)** Less than 100 ppm N - Less than 0.7 EC	

	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	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	**(m)** Level 2 **(t)** 60-65°F (16-18°C) **(l)** 4,000-5,000 f.c. (43,100-53,800 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	No	For forcing info: See Perennials Forcing Guide. Spray damp-off fungicide. Grow relatively dry after Stage 1.
	(m) Level 3 **(t)** 65-68°F (18-20°C) **(l)** 2,000-2,500 f.c. (21,500-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 2 **(t)** 60-65°F (16-18°C) **(l)** 2,000-2,500 f.c. (21,500-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 2 **(t)** 60-65°F (16-18°C) **(l)** 4,000-5,000 f.c. (43,100-53,800 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	No	For forcing info: see Perennials Forcing Guide. Spray damp-off fungicide.
	(m) Level 3 **(t)** 65-68°F (18-20°C) **(l)** 2,000-2,500 f.c. (21,500-26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 2 **(t)** 60-65°F (16-18°C) **(l)** 2,000-2,500 f.c. (21,500-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 2 **(t)** 60-65°F (16-18°C) **(l)** 4,000-5,000 f.c. (43,100-53,800 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	No	

CLASS/SERIES	HARDINESS ZONE	RECOMMENDED PLUG SIZE	GROWING ON TEMPERATURE (DAYS/NIGHTS)	TARGET MEDIA PH/EC	DAYLENGTH	
AQUILEGIA *Aquilegia vulgaris* **Clementine™ Series**	3-8	288	**(day)** 65-68°F (18-20°C) **(night)** 50-54°F (10-12°C)	5.8-6.2 pH 1.0-1.5 mmhos/cm	Day Neutral Aquilegia is a day-neutral plant after vernalization. Long days of 14 hours or longer could stimulate stem elongation and slightly hasten flowering after the vernalization period.	
AQUILEGIA *Aquilegia x hybrida* **Earlybird™ F_1 Series**	3-9	288	**(day)** 65-68°F (18-20°C) **(night)** 50-54°F (10-12°C)	5.8-6.2 pH 1.0-1.5 mmhos/cm	Day Neutral But needs minimum a period of 4 to 5 weeks Long Days (min. 13 hrs.) starting 4 weeks after transplanting to achieve stem elongation (avoid flowering beneath foliage).	
AQUILEGIA *Aquilegia x hybrida* **Songbird F_1 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 *Aquilegia x hybrida* **Swan F_1 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 *Aquilegia vulgaris* **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 *Aquilegia vulgaris* **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.	
ARABIS *Arabis blepharophylla* **Barranca™ Series**	4-9	288	**(day)** 60-65°F (16-18°C) **(night)** 50-54°F (10-12°C)	5.5-6.5 pH 1.0-1.3 mmhos/cm	Day Neutral	
ARABIS *Arabis blepharophylla* **Spring Charm**	4-7	288	**(day)** 60-65°F (16-18°C) **(night)** 50-54°F (10-12°C)	5.5-6.5 pH 1.0-1.3 mmhos/cm	Day Neutral	
ARMERIA *Armeria pseudarmeria* **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	

* Preferred plug size for forcing culture

	VERNALIZATION REQUIRED	FINISHING PROGRAMS FOR ANNUAL AND OVERWINTER PRODUCTION	KEY TIPS
	Yes - duration of 10 to 12 weeks; juvenility min. 10 to 12 true leaves	**Overwinter**, **5"/6"/1 Gallon**, 1-3 (ppp), 32-40 (weeks), Spring **PGR** daminozide 1,500-2,500 ppm Spray **Overwinter**, **8"/2 Gallon**, 4-6 (ppp), 32-40 (weeks), Spring **PGR** daminozide 1,500-2,500 ppm Spray	Keep RH at optimum 65%. Outside crops can be forced indoors at 54 to 59°F (12 to 15°C).
	Yes - Low vernalization requirement, only 4 weeks at 50-55°F (10-13°C) from 5 to 6 true leaves onwards; if higher temp, then they need Long Days (13 hours plus) for optimal elongation	**Annual**, **4"/4.5"/Quart**, 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**, 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**, 1 (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**, 1 (ppp), 13-16 (weeks), Spring, ADT 55°F (13°C) **PGR** daminozide/ancymidol tank mix 2,500-10 ppm Spray	Apply a minimum period of 4 to 5 weeks Long Days (min. 13 hrs.) starting 4 weeks after transplanting to achieve stem elongation (avoid flowering beneath foliage).
	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	**Annual**, **5"/6"/1 Gallon**, 1 (ppp), 22-28 (weeks), Spring **PGR** daminozide/ancymidol tank mix 2,500/10 ppm Spray **Overwinter**, **5"/6"/1 Gallon**, 1 (ppp), 32-38 (weeks), Autumn **PGR** daminozide/ancymidol tank mix 2,500/10 ppm Spray	Requires night temperatures below 55°F (13°C) to initiate flower buds.
	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	**Annual**, **5"/6"/1 Gallon**, 1 (ppp), 22-28 (weeks), Spring **PGR** daminozide/ancymidol tank mix 2,500/10 ppm Spray **Overwinter**, **5"/6"/1 Gallon**, 1 (ppp), 32-38 (weeks), Autumn **PGR** daminozide/ancymidol tank mix 2,500/10 ppm Spray	Requires night temperatures below 55°F (13°C) to initiate flower buds.
	Yes - duration of 8 to 10 weeks; juvenility min. 10 to 12 true leaves	**Overwinter**, **4"/4.5"/Quart**, 1-2 (ppp), 32-40 (weeks), Spring **PGR** daminozide 1,250-2,500 ppm Spray **Overwinter**, **5"/6"/1 Gallon**, 2-4 (ppp), 32-40 (weeks), Spring **PGR** daminozide 1,250-2,500 ppm Spray	Keep RH at optimum 65%. Outside crops can be forced indoors at 54 to 59°F (12 to 15°C).
	Yes - duration of 8 to 10 weeks; juvenility min. 10 to 12 true leaves	**Overwinter**, **4"/4.5"/Quart**, 1-2 (ppp), 32-40 (weeks), Spring **PGR** daminozide 1,250-2,500 ppm Spray **Overwinter**, **5"/6"/1 Gallon**, 2-4 (ppp), 32-40 (weeks), Spring **PGR** daminozide 1,250-2,500 ppm Spray	Keep RH at optimum 65%. Outside crops can be forced indoors at 54 to 59°F (12 to 15°C).
	Yes - Requires 8 to 10 weeks ADT 50°F (10°C) starting at 10 true leaves	**Overwinter**, **4"/4.5"/Quart**, 1 (ppp), 26-32 (weeks), Early Spring, ADT 55°F (13°C)	Requires well-drained soil; avoid Winter wet. Avoid planting plugs too deep (crown must be equal with the media surface).
	Yes - duration of 8 to 10 weeks from 7 to 8 true leaves onwards	**Overwinter**, **5"/6"/1 Gallon**, 1 (ppp), 28-34 (weeks), Early Spring	Well-drained soil. Dislikes Winter wet. Moderate fertilization.
	No	**Annual**, **4"/4.5"/Quart**, 1 (ppp), 12-15 (weeks), Spring **PGR** paclobutrazol 5 ppm Spray **Annual**, **5"/6"/1 Gallon**, 1 (ppp), 10-12 (weeks), Summer **PGR** paclobutrazol 5 ppm Spray **Annual**, **5"/6"/1 Gallon**, 3-5 (ppp), 10-12 (weeks), Summer **PGR** paclobutrazol 5 ppm Spray **Annual**, **5"/6"/1 Gallon**, 3-5 (ppp), 12-15 (weeks), Spring **PGR** paclobutrazol 5 ppm Spray **Overwinter**, **5"/6"/1 Gallon**, 1 (ppp), 26-34 (weeks), Spring **PGR** paclobutrazol 5 ppm Spray **Overwinter**, **5"/6"/1 Gallon**, 3-5 (ppp), 26-34 (weeks), Spring **PGR** paclobutrazol 5 ppm Spray	Prevent Mg and Fe deficiency. Avoid planting plugs too deep (crown below soil surface) and growing wet in plug and finished stages.

CLASS/SERIES	HARDINESS ZONE	RECOMMENDED PLUG SIZE	GROWING ON TEMPERATURE (DAYS/NIGHTS)	TARGET MEDIA PH/EC	DAYLENGTH	
AURINIA *Aurinia saxatile* **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 *Bellis perennis* **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 *Campanula carpatica* **Rapido F_1 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.	
COREOPSIS *Coreopsis grandiflora* **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 13 hours	
COREOPSIS *Coreopsis grandiflora* **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 *Coreopsis grandiflora* **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.	

* Preferred plug size for forcing culture

	VERNALIZATION REQUIRED	FINISHING PROGRAMS FOR ANNUAL AND OVERWINTER PRODUCTION	KEY TIPS
	Yes - 6 to 8 weeks ADT 50°F (10°C) starting at 10 true leaves	**Overwinter**, **4"/4.5"/Quart**, 1 (ppp), 26-32 (weeks), Early Spring, ADT 60°F (16°C)	Requires well-drained soil; avoid Winter wet. Avoid planting plugs too deep (crown must be equal with the media surface).
	No	**Annual**, **306 Pack**, 1 (ppp), 6-8 (weeks), Autumn **PGR** daminozide 1,000-2,000 ppm Spray **Annual**, **306 Pack**, 1 (ppp), 6-8 (weeks), Winter **PGR** daminozide 1,000-2,000 ppm Spray **Overwinter**, **5"/6"/1 Gallon**, 1 (ppp), 16-24 (weeks), Early Spring **PGR** daminozide 1,000-2,000 ppm Spray	Grow as cool as possible but avoid freezing temperatures. For forcing the crop when grown at these temperatures, grow at 55 to 58°F (10 to 12°C) for 4 weeks before sale. PGR for EU is Tilt (propiconazole) at 200 to 300 ppm.
	No	**Annual**, **4"/4.5"/Quart**, 1 (ppp), 12-14 (weeks), Late Spring **PGR** chlormequat chloride 750 ppm Spray **Annual**, **4"/4.5"/Quart**, 1 (ppp), 12-14 (weeks), Late Spring **PGR** daminozide 2,000-2,500 ppm Spray **Annual**, **4"/4.5"/Quart**, 1 (ppp), 9-12 (weeks), Summer **PGR** chlormequat chloride 750 ppm Spray **Annual**, **4"/4.5"/Quart**, 1 (ppp), 9-12 (weeks), Summer **PGR** daminozide 2,000-2,500 ppm Spray **Annual**, **5"/6"/1 Gallon**, 3-5 (ppp), 12-14 (weeks), Late Spring **PGR** chlormequat chloride 750 ppm Spray **Annual**, **5"/6"/1 Gallon**, 3-5 (ppp), 12-14 (weeks), Late Spring **PGR** daminozide 2,000-2,500 ppm Spray **Annual**, **5"/6"/1 Gallon**, 3-5 (ppp), 9-12 (weeks), Summer **PGR** chlormequat chloride 750 ppm Spray **Annual**, **5"/6"/1 Gallon**, 3-5 (ppp), 9-12 (weeks), Summer **PGR** daminozide 2,000-2,500 ppm Spray	Moist, well-drained medium. Growing too cool delays both plug and finished plant. Long day Summer decreases plant bulk. Use more plugs per container compared to Spring.
	No	**Annual**, **4"/4.5"/Quart**, 1 (ppp), 9-10 (weeks), Summer, ADT 72°F (22°C) **PGR** daminozide 2,500-3,000 ppm Spray **Forcing**, **4"/4.5"/Quart**, 1 (ppp), 9-10 (weeks), Late Spring, ADT 72°F (22°C) **PGR** daminozide 2,500-3,000 ppm Spray **Forcing**, **4"/4.5"/Quart**, 1 (ppp), 10-11 (weeks), Autumn, ADT 72°F (22°C) **PGR** daminozide 2,500-3,000 ppm Spray **Annual**, **5"/6"/1 Gallon**, 1-3 (ppp), 9-11 (weeks), Summer, ADT 72°F (22°C) **PGR** daminozide 2,500-3,000 ppm Spray **Forcing**, **5"/6"/1 Gallon**, 1-3 (ppp), 10-11 (weeks), Late Spring, ADT 72°F (22°C) **PGR** daminozide 2,500-3,000 ppm Spray **Forcing**, **5"/6"/1 Gallon**, 1-3 (ppp), 10-11 (weeks), Autumn, ADT 72°F (22°C) **PGR** daminozide 2,500-3,000 ppm Spray	Apply PGRs when buds are visible
	No	**Annual**, **4"/4.5"/Quart**, 1 (ppp), 11-13 (weeks), Summer **PGR** daminozide 5,000 ppm Spray **Annual**, **5"/6"/1 Gallon**, 1-3 (ppp), 12-13 (weeks), Summer **PGR** daminozide 5,000 ppm Spray **Forcing**, **5"/6"/1 Gallon**, 1-3 (ppp), 12-13 (weeks), Late Spring, ADT 68°F (20°C) **PGR** daminozide 2,500-5,000 ppm Spray **Forcing**, **5"/6"/1 Gallon**, 1-3 (ppp), 11-12 (weeks), Autumn, ADT 72°F (22°C) **PGR** daminozide 2,500-5,000 ppm Spray	Apply PGRs when buds are visible.
	No	**Annual**, **4"/4.5"/Quart**, 1 (ppp), 9-11 (weeks), Summer **PGR** daminozide 5,000 ppm Spray **Forcing**, **4"/4.5"/Quart**, 1 (ppp), 10-11 (weeks), Late Spring, ADT 68°F (20°C) **PGR** daminozide 2,500-5,000 ppm Spray **Forcing**, **5"/6"/1 Gallon**, 1-3 (ppp), 10-12 (weeks), Late Spring, ADT 68°F (20°C) **PGR** daminozide 2,500-5,000 ppm Spray **Forcing**, **5"/6"/1 Gallon**, 1-3 (ppp), 10-12 (weeks), Autumn, ADT 72°F (22°C) **PGR** daminozide 2,500-5,000 ppm Spray **Annual**, **5"/6"/1 Gallon**, 1-3 (ppp), 10-11 (weeks), Summer **PGR** daminozide 5,000 ppm Spray	Apply PGRs when buds are visible.

CLASS/SERIES	HARDINESS ZONE	RECOMMENDED PLUG SIZE	GROWING ON TEMPERATURE (DAYS/NIGHTS)	TARGET MEDIA PH/EC	DAYLENGTH	
COREOPSIS *Coreopsis grandiflora* **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 *Delphinium x belladonna* **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 *Delphinium elatum* **Dasante Blue F_1**	4-8	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 *Delphinium grandiflorum* **Diamonds Blue F_1**	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	
DELPHINIUM *Delphinium elatum* **Guardian F_1 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 *Dianthus x barbatus interspecific* **Rockin'™ F_1 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	

* Preferred plug size for forcing culture

	VERNALIZATION REQUIRED	FINISHING PROGRAMS FOR ANNUAL AND OVERWINTER PRODUCTION	KEY TIPS
	No	**Annual**, **4"/4.5"/Quart**, 1 (ppp), 9-10 (weeks), Summer, ADT 72°F (22°C) **PGR** daminozide 5,000 ppm Spray **Forcing**, **4"/4.5"/Quart**, 1 (ppp), 9-10 (weeks), Late Spring, ADT 72°F (22°C) **PGR** daminozide 2,500-5,000 ppm Spray **Forcing**, **4"/4.5"/Quart**, 1 (ppp), 10-11 (weeks), Autumn, ADT 72°F (22°C) **PGR** daminozide 2,500-5,000 ppm Spray **Annual**, **5"/6"/1 Gallon**, 1-3 (ppp), 10-11 (weeks), Summer, ADT 72°F (22°C) **PGR** daminozide 5,000 ppm Spray **Forcing**, **5"/6"/1 Gallon**, 1-3 (ppp), 10-11 (weeks), Autumn, ADT 72°F (22°C) **PGR** daminozide 2,500-5,000 ppm Spray **Forcing**, **5"/6"/1 Gallon**, 1-3 (ppp), 10-11 (weeks), Late Spring, ADT 72°F (22°C) **PGR** daminozide 2,500-5,000 ppm Spray	Apply PGRs when buds are visible.
	No	**Annual**, **5"/6"/1 Gallon**, 1-3 (ppp), 10-12 (weeks), Summer **PGR** paclobutrazol 20 ppm Spray **Annual**, **5"/6"/1 Gallon**, 1-3 (ppp), 11-13 (weeks), Spring **PGR** paclobutrazol 20 ppm Spray	See Cut Flower section for cut flower production for both field and greenhouse. Monitor for Powdery Mildew.
	No	**Overwinter**, **5"/6"/1 Gallon**, 1-2 (ppp), 20-24 (weeks), Early Spring, ADT 55°F (13°C) **PGR** paclobutrazol 20 ppm Spray **Annual**, **5"/6"/1 Gallon**, 1-2 (ppp), 12-16 (weeks), Spring, ADT 60°F (16°C) **PGR** paclobutrazol 20 ppm Spray **Overwinter**, **8"/2 Gallon**, 3 (ppp), 20-24 (weeks), Early Spring, ADT 55°F (13°C) **PGR** paclobutrazol 20 ppm Spray **Annual**, **8"/2 Gallon**, 3 (ppp), 12-16 (weeks), Spring, ADT 60°F (16°C) **PGR** paclobutrazol 20 ppm Spray	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	**Annual**, **5"/6"/1 Gallon**, 1-3 (ppp), 10-12 (weeks), Summer **PGR** paclobutrazol 20 ppm Spray **Annual**, **5"/6"/1 Gallon**, 1-3 (ppp), 12-14 (weeks), Spring **PGR** paclobutrazol 20 ppm Spray **Annual**, **8"/2 Gallon**, 3 (ppp), 10-12 (weeks), Summer **PGR** paclobutrazol 20 ppm Spray **Annual**, **8"/2 Gallon**, 3 (ppp), 12-14 (weeks), Spring **PGR** paclobutrazol 20 ppm Spray	Avoid planting plugs too deep. Maintain good fertilization, especially at flower initiation. Monitor for Aphids, Botrytis, Powdery Mildew.
	No	**Annual**, **5"/6"/1 Gallon**, 1 (ppp), 11-13 (weeks), Summer **PGR** paclobutrazol 20 ppm Spray **Annual**, **5"/6"/1 Gallon**, 1 (ppp), 12-16 (weeks), Spring **PGR** paclobutrazol 20 ppm Spray	PGRs: 2 Bonzi sprays, the first approximately 3 weeks after transplant and the second approximately 2 weeks later. Possible third application may be necessary, subject to conditions. Delphinium are especially sensitive to Powdery Mildew; spray preventively if necessary. Ship and sell latest with flower spike one third open to decrease risk of petal shattering. See Cut Flower section for more details on cut flower production. Container production: PGR Bonzi (paclobutrazol) 1 or 2 applications 20 ppm spray.
	No	**Annual**, **4"/4.5"/Quart**, 1 (ppp), 9-10 (weeks), Spring **PGR** paclobutrazol 15-20 ppm Spray **Annual**, **5"/6"/1 Gallon**, 1-3 (ppp), 9-10 (weeks), Spring **PGR** paclobutrazol 15-20 ppm Spray **Annual**, **5"/6"/1 Gallon**, 3 (ppp), 8-9 (weeks), Autumn **PGR** paclobutrazol 15-20 ppm Spray **Annual**, **10" Pot or HB/3 Gallon**, 4 (ppp), 8-9 (weeks), Autumn **PGR** paclobutrazol 15-20 ppm Spray	3-4 applications of PGRs are needed to produce in quart or gallon containers.

CLASS/SERIES	HARDINESS ZONE	RECOMMENDED PLUG SIZE	GROWING ON TEMPERATURE (DAYS/NIGHTS)	TARGET MEDIA PH/EC	DAYLENGTH
DIGITALIS *Digitalis purpurea* **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 *Echinacea x hybrida* **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 Best plant structure comes with short day conditions (12 hours or less) until 7 mature leaf stage, then long days. For forcing info: See Perennials Forcing Guide.
ECHINACEA *Echinacea x hybrida* **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 Best plant structure comes with short day conditions (12 hours or less) until 7-mature leaf stage, then long days. For forcing info: See Perennials Forcing Guide.
ECHINACEA *Echinacea purpurea* **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 Best plant structure comes with short day conditions (12 hours or less) until 7-mature leaf stage, then long days. For forcing info: See Perennials Forcing Guide.
GAILLARDIA *Gaillardia x grandiflora* **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

* Preferred plug size for forcing culture

	VERNALIZATION REQUIRED	FINISHING PROGRAMS FOR ANNUAL AND OVERWINTER PRODUCTION	KEY TIPS
	No	**Forcing**, **5"/6"/1 Gallon**, 1-2 (ppp), 12-13 (weeks), Late Spring, ADT 68°F (20°C) **PGR** paclobutrazol 2-3 ppm Drench **Annual**, **5"/6"/1 Gallon**, 1-2 (ppp), 10-12 (weeks), Summer, ADT 68°F (20°C) **PGR** uniconazole 5 ppm Spray **Annual**, **5"/6"/1 Gallon**, 1-2 (ppp), 10-12 (weeks), Summer, ADT 68°F (20°C) **PGR** daminozide 2,500-3,500 ppm Spray **Forcing**, **5"/6"/1 Gallon**, 1-2 (ppp), 12-13 (weeks), Late Spring, ADT 68°F (20°C) **PGR** daminozide 2,500-3,500 ppm Spray **Forcing**, **5"/6"/1 Gallon**, 1-2 (ppp), 12-13 (weeks), Late Spring, ADT 68°F (20°C) **PGR** paclobutrazol 5-10 ppm Spray **Forcing**, **5"/6"/1 Gallon**, 1-2 (ppp), 12-13 (weeks), Late Spring, ADT 68°F (20°C) **PGR** uniconazole 1 ppm Drench **Annual**, **5"/6"/1 Gallon**, 1-2 (ppp), 10-12 (weeks), Summer, ADT 68°F (20°C) **PGR** paclobutrazol 5-10 ppm Spray **Forcing**, **5"/6"/1 Gallon**, 1-2 (ppp), 12-13 (weeks), Late Spring, ADT 68°F (20°C) **PGR** daminozide 2,500-3,500 ppm Spray **Annual**, **5"/6"/1 Gallon**, 1-2 (ppp), 10-12 (weeks), Summer, ADT 68°F (20°C) **PGR** paclobutrazol 2-3 ppm Drench **Forcing**, **8"/2 Gallon**, 3-4 (ppp), 12-13 (weeks), Late Spring, ADT 68°F (20°C) **PGR** uniconazole 5 ppm Spray **Forcing**, **8"/2 Gallon**, 3-4 (ppp), 12-13 (weeks), Late Spring, ADT 68°F (20°C) **PGR** daminozide 2,500-3,500 ppm Spray **Annual**, **8"/2 Gallon**, 3-4 (ppp), 10-12 (weeks), Summer **PGR** paclobutrazol 5-10 ppm Spray **Annual**, **8"/2 Gallon**, 3-4 (ppp), 10-12 (weeks), Summer **PGR** uniconazole 5 ppm Spray **Annual**, **8"/2 Gallon**, 3-4 (ppp), 10-12 (weeks), Summer **PGR** daminozide 2,500-3,000 ppm Spray **Forcing**, **8"/2 Gallon**, 3-4 (ppp), 12-13 (weeks), Late Spring, ADT 68°F (20°C) **PGR** paclobutrazol 5-10 ppm Spray	Digitalis can be grown under high light, provided there is enough moisture. Monitor media EC when generative and maintain levels. Avoid drying out, as this could cause flower abortion.
	No - but beneficial	**Overwinter**, **5"/6"/1 Gallon**, 1 (ppp), 30-34 (weeks), Late Spring, ADT 72°F (22°C) **Annual**, **5"/6"/1 Gallon**, 1 (ppp), 13-17 (weeks), Late Spring, ADT 72°F (22°C) **Forcing**, **5"/6"/1 Gallon**, 1 (ppp), 9-11 (weeks), Late Summer, ADT 72°F (22°C)	
	No - but beneficial	**Overwinter**, **5"/6"/1 Gallon**, 1-3 (ppp), 30-34 (weeks), Late Spring, ADT 72°F (22°C) **Annual**, **5"/6"/1 Gallon**, 1-3 (ppp), 13-17 (weeks), Late Spring, ADT 72°F (22°C) **Forcing**, **5"/6"/1 Gallon**, 1-3 (ppp), 9-11 (weeks), Late Summer, ADT 72°F (22°C)	
	No - but beneficial	**Overwinter**, **5"/6"/1 Gallon**, 1-3 (ppp), 30-34 (weeks), Late Spring, ADT 72°F (22°C) **Forcing**, **5"/6"/1 Gallon**, 1-3 (ppp), 9-11 (weeks), Late Summer, ADT 72°F (22°C) **Annual**, **5"/6"/1 Gallon**, 1-3 (ppp), 13-17 (weeks), Late Spring, ADT 72°F (22°C)	
	No	**Forcing**, **4"/4.5"/Quart**, 1 (ppp), 9-11 (weeks), Late Summer, ADT 72°F (22°C) **Annual**, **4"/4.5"/Quart**, 1 (ppp), 10-14 (weeks), Late Spring, ADT 68°F (20°C)	PGRs are generally not necessary if grown cooler. If necessary, apply daminozide 2,500 to 5,000 ppm spray.

CLASS/SERIES	HARDINESS ZONE	RECOMMENDED PLUG SIZE	GROWING ON TEMPERATURE (DAYS/NIGHTS)	TARGET MEDIA PH/EC	DAYLENGTH	
GAURA *Gaura lindheimeri* **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 *Gypsophila cerastioides* **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 *Heuchera x hybrida* **Melting Fire**	5-8	288 128*	**(day)** 60-68°F (16-20°C) **(night)** 58-60°F (14-16°C)	5.8-6.2 pH 1.2-1.4 mmhos/cm	Day Neutral	
HEUCHERA *Heuchera micrantha* **Palace Purple**	4-7	288 128*	**(day)** 65-68°F (18-20°C) **(night)** 60-65°F (16-18°C)	5.8-6.2 pH 1.2-1.4 mmhos/cm	Day Neutral	
HIBISCUS *Hibiscus moscheutos* **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 *Iberis sempervirens* **Whiteout**	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 *Lavandula angustifolia* **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.	

* Preferred plug size for forcing culture

	VERNALIZATION REQUIRED	FINISHING PROGRAMS FOR ANNUAL AND OVERWINTER PRODUCTION	KEY TIPS
	No	**Annual**, **4"/4.5"/Quart**, 1 (ppp), 7-8 (weeks), Spring **PGR** daminozide/chlormequat chloride tank mix 2,500/750-2,500/1,000 ppm Spray **Annual**, **5"/6"/1 Gallon**, 1 (ppp), 8-9 (weeks), Spring **PGR** daminozide/chlormequat chloride tank mix 2,500/750-2,500/1,000 ppm Spray **Annual**, **5"/6"/1 Gallon**, 1-3 (ppp), 8-9 (weeks), Spring **PGR** daminozide/chlormequat chloride tank mix 2,500/750-2,500/1,000 ppm Spray	Well-drained soil. Dislikes wet Winter soils. Monitor for Aphids. Cold growing at 55°F (13°C); add 4 to 5 weeks crop time. See GrowerFacts for more details on overwintered production.
	Yes - duration of 8 weeks; max 40°F (4°C)	**Overwinter**, **4"/4.5"/Quart**, 1 (ppp), 26-40 (weeks), Spring	Well-drained soil. Dislikes wet Winter soils. Moderate fertilization. Monitor for Botrytis, Aphids, Spider Mites and Whiteflies. Nice for perennial combo and edging. Foliage turns purple with cold, partly reversible.
	No - vernalization not needed when sold for foliage	**Forcing**, **4"/4.5"/Quart**, 1 (ppp), 11-12 (weeks), Late Spring, ADT 68°F (20°C) **Forcing**, **4"/4.5"/Quart**, 1 (ppp), 11-12 (weeks), Autumn, ADT 68°F (20°C) **Overwinter**, **5"/6"/1 Gallon**, 1 (ppp), 28-36 (weeks), Spring **Overwinter**, **5"/6"/1 Gallon**, 1-3 (ppp), 30-36 (weeks), Spring **Forcing**, **5"/6"/1 Gallon**, 1-3 (ppp), 13-14 (weeks), Late Spring, ADT 68°F (20°C) **Forcing**, **5"/6"/1 Gallon**, 1-3 (ppp), 12-13 (weeks), Autumn, ADT 68°F (20°C)	Do not plant plugs too deep. Keep plug surface at the same level as the media surface. Avoid wet and overly dry. Needs well-drained medium.
	No - vernalization not needed when sold for foliage	**Forcing**, **4"/4.5"/Quart**, 1 (ppp), 10-11 (weeks), Late Spring, ADT 68°F (20°C) **Forcing**, **4"/4.5"/Quart**, 1 (ppp), 9-10 (weeks), Autumn, ADT 68°F (20°C) **Forcing**, **5"/6"/1 Gallon**, 1-2 (ppp), 10-11 (weeks), Autumn, ADT 68°F (20°C) **Overwinter**, **5"/6"/1 Gallon**, 1 (ppp), 26-32 (weeks), Spring **Overwinter**, **5"/6"/1 Gallon**, 1-3 (ppp), 28-32 (weeks), Spring **Forcing**, **5"/6"/1 Gallon**, 1-2 (ppp), 11-12 (weeks), Late Spring, ADT 68°F (20°C)	Do not plant plugs too deep. Keep plug surface at the same level as the media surface. Grow relatively dry. Needs well-drained medium.
	No - damage to plugs results below 41°F (5°C)	**Annual**, **4"/4.5"/Quart**, 1 (ppp), 10-13 (weeks), Summer **PGR** daminozide/chlormequat chloride tank mix 750-2,500 ppm Spray **Annual**, **5"/6"/1 Gallon**, 1 (ppp), 10-13 (weeks), Summer **PGR** daminozide/chlormequat chloride tank mix 750-2,500 ppm Spray	Does not need pinching. Maintain media in high moisture. Growing plant too dry will result in flower bud abortion. Monitor for Thrips, Aphids and Spider Mites. Growth stops and lower leaves turn yellow when grown below 68°F (20°C). In Southern climates, stronger PGRs may be needed; option is Bonzi 0.5 ppm drench. High light will promote branching and reduce plant height. Spacing when plants touch each other is highly recommended.
	Yes - minimum 8 to 10 weeks. Plants should be bulked for about 8 to 10 weeks before being receptive to cold treatment.	**Overwinter**, **4"/4.5"/Quart**, 1 (ppp), 26-36 (weeks), Early Spring	No pinch needed. Allow enough bulk time; grow in active climate. Monitor for Downy and Powdery Mildew; spray preventively.
	No	**Annual**, **4"/4.5"/Quart**, 1 (ppp), 9-10 (weeks), Summer, ADT 60°F (16°C) **PGR** daminozide 2,000-3,000 ppm Spray **Annual**, **4"/4.5"/Quart**, 1 (ppp), 9-11 (weeks), Late Spring, ADT 60°F (16°C) **PGR** daminozide 2,000-3,000 ppm Spray **Annual**, **5"/6"/1 Gallon**, 1-3 (ppp), 9-10 (weeks), Summer, ADT 60°F (16°C) **PGR** daminozide 2,000-3,000 ppm Spray **Annual**, **5"/6"/1 Gallon**, 1-3 (ppp), 10-11 (weeks), Late Spring, ADT 60°F (16°C) **PGR** daminozide 2,000-3,000 ppm Spray	Avoid planting plug too deep. Keep plug surface same as medium surface. Grow low RH and high light. Let top soil dry in between waterings, but do not allow medium to dry, as high EC could cause root damage. Monitor for Botrytis, Root Rot, Leafspot, Aphids and Mites. For shipping, keep soil moist and plant dry. Use Avignon Early Blue for annual early Southwest and Northwest season and Ellagance Purple for annual early Southeast season. Lavance is best for Summer production, has best bulk. Do not plan this variety for early season. Growth is delayed in cool conditions. See the Lavender Scheduling Tool at panamseed.com for finishing schedules by region. For overwintered production, cut back just below top foliage; do this mid-Autumn, approximately 4 weeks before dormant period, or in Spring just before regrowth.

CLASS/SERIES	HARDINESS ZONE	RECOMMENDED PLUG SIZE	GROWING ON TEMPERATURE (DAYS/NIGHTS)	TARGET MEDIA PH/EC	DAYLENGTH	
LAVANDULA *Lavandula stoechas* **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 *Lavandula angustifolia* **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 *Lavandula angustifolia* **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 and Pink is 10 hours; all other varieties are Obligate Long Day with critical daylength of about 13-14 hours. See Lavender Scheduling Tool at panamseed.com for finishing schedules by region.	
LAVANDULA *Lavandula angustifolia* **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 *Lavandula multifida* **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	

* Preferred plug size for forcing culture

	VERNALIZATION REQUIRED	FINISHING PROGRAMS FOR ANNUAL AND OVERWINTER PRODUCTION	KEY TIPS
	No	**Annual**, **4"/4.5"/Quart**, 1 (ppp), 12-14 (weeks), Spring **Overwinter**, **4"/4.5"/Quart**, 1 (ppp), 24-32 (weeks), Early Spring **Annual**, **5"/6"/1 Gallon**, 1-3 (ppp), 12-14 (weeks), Spring	Don't plant too deep since Bandera has low and deep branching, and Botrytis could more easily affect plants. Need cool production to reach sufficient flag size, see Scheduling tool. High pH (above 6.8) can cause leaf chlorosis.
	No	**Annual**, **4"/4.5"/Quart**, 1 (ppp), 9-12 (weeks), Late Spring, ADT 65°F (18°C) **PGR** daminozide 2,000-3,000 ppm Spray **Annual**, **4"/4.5"/Quart**, 1 (ppp), 9-10 (weeks), Summer, ADT 65°F (18°C) **PGR** daminozide 2,000-3,000 ppm Spray **Annual**, **5"/6"/1 Gallon**, 1-3 (ppp), 9-11 (weeks), Summer, ADT 65°F (18°C) **PGR** daminozide 2,000-3,000 ppm Spray **Annual**, **5"/6"/1 Gallon**, 1-3 (ppp), 10-12 (weeks), Late Spring, ADT 65°F (18°C) **PGR** daminozide 2,000-3,000 ppm Spray	Avoid planting plugs deep. Keep plug surface same as medium surface. Grow 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.
	No	**Overwinter**, **4"/4.5"/Quart**, 1 (ppp), 28-36 (weeks), Spring, ADT 65°F (18°C) **PGR** daminozide 2,000-3,000 ppm Spray **Annual**, **4"/4.5"/Quart**, 1 (ppp), 9-12 (weeks), Late Spring, ADT 65°F (18°C) **PGR** daminozide 2,000-3,000 ppm Spray **Annual**, **5"/6"/1 Gallon**, 1-3 (ppp), 9-12 (weeks), Late Spring, ADT 65°F (18°C) **PGR** daminozide 2,000-3,000 ppm Spray	Avoid planting plugs deep. Keep plug surface same as medium surface. Grow low RH and high light. Let top soil dry in between waterings, but do not allow medium to dry as high EC could cause root damage. Monitor for Botrytis, Root Rot, Leafspot, Aphids and Mites. For shipping, keep soil moist and plant dry. Scheduling is different between colours: Purple and Pink are the same and the fastest (as indicated lead time); Sky adds 1 week; Ice adds 3 weeks, and Snow adds 4 to 5 weeks. See Scheduling Tool for regional lead times. For overwintering production, cut back just below top foliage; do this mid-Autumn, approximately 4 weeks before dormant period, or in Spring just before regrowth.
	No	**Annual**, **4"/4.5"/Quart**, 1 (ppp), 9-11 (weeks), Summer, ADT 65°F (18°C) **PGR** daminozide 2,000-3,000 ppm Spray **Annual**, **4"/4.5"/Quart**, 1 (ppp), 10-11 (weeks), Autumn, ADT 65°F (18°C) **PGR** daminozide 2,000-3,000 ppm Spray **Overwinter**, **4"/4.5"/Quart**, 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**, 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**, 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**, 1-3 (ppp), 30-38 (weeks), Late Spring, ADT 60°F (16°C) **PGR** daminozide 2,000-3,000 ppm Spray	Avoid planting plug too deep. Keep plug surface same as medium surface. Grow low RH and high light. Let top soil dry in between waterings, but do not allow medium to dry, as high EC could cause root damage. Monitor for Botrytis, Root Rot, Leafspot, Aphids and Mites. For shipping, keep soil moist and plant dry. 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.
	No	**Annual**, **4"/4.5"/Quart**, 1 (ppp), 12-14 (weeks), Summer **PGR** daminozide 2,000-3,000 ppm Spray **Annual**, **8"/2 Gallon**, 3-5 (ppp), 12-15 (weeks), Summer **PGR** daminozide 2,000-3,000 ppm Spray	Grow relatively dry and provide active climate. Vigorous Lavandula needs more PGRs than L. angustifolia and L. stoechas, and is a long-flowering annual.

CLASS/SERIES	HARDINESS ZONE	RECOMMENDED PLUG SIZE	GROWING ON TEMPERATURE (DAYS/NIGHTS)	TARGET MEDIA PH/EC	DAYLENGTH	
LEUCANTHEMUM *Leucanthemum x superbum* **Madonna F_1**	3-9	288 72	**(day)** 65-72°F (18-22°C) **(night)** 14-16°F (-10--9°C)	5.5-6.2 pH 0.9-1.1 mmhos/cm	Obligate Long Day Obligate Long Day Plant, needs minimum of 14.5 hr daylength to initiate flowering. Reacts very well to night interruption (4 hrs. between 10 pm and 2 am) for Spring Forcing. Please check that juvenility stage of 10 true leaves has passed.	
LOBELIA *Lobelia x speciosa* **Starship™ F_1 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. Deep Rose is an Obligate Long Day plant and requires 13 hours or longer for flowering. See Perennials Forcing Guide for more info on scheduling and plug size and treatments. Forcing for Summer and Autumn sales target Weeks 25 or later. Sow Week 15 to 17, using 288 trays. Grow plugs under 10-hour short-day conditions using black cloth until ready to transplant. Allow about 8 to 9 weeks during Summer production. After short-day treatment, transplant to final container and grow under natural long days. Outdoor production is recommended. Total crop time is approximately 19 to 20 weeks.	
MYOSOTIS *Myosotis sylvatica* **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	
NEPETA *Nepeta nervosa* **Blue Moon**	4-7	288	**(day)** 60-65°F (16-18°C) **(night)** 54-60°F (12-16°C)	5.8-6.5 pH 1.2-1.4 mmhos/cm	Facultative Long Day Long day beneficial.	
NEPETA *Nepeta nervosa* **Pink Cat**	4-7	288	**(day)** 60-65°F (16-18°C) **(night)** 54-60°F (12-16°C)	5.8-6.5 pH 1.2-1.4 mmhos/cm	Facultative Long Day Long day beneficial.	

* Preferred plug size for forcing culture

	VERNALIZATION REQUIRED	FINISHING PROGRAMS FOR ANNUAL AND OVERWINTER PRODUCTION	KEY TIPS
	No	**Annual**, **4"/4.5"/Quart**, 1 (ppp), 11-12 (weeks), Summer, ADT 68°F (20°C) **PGR** paclobutrazol 20-25 ppm Spray **Annual**, **4"/4.5"/Quart**, 1 (ppp), 11-12 (weeks), Summer, ADT 68°F (20°C) **PGR** uniconazole 5 ppm Spray **Annual**, **4"/4.5"/Quart**, 1 (ppp), 10-11 (weeks), Summer, ADT 78°F (26°C) **PGR** daminozide 5,000-6,000 ppm Spray **Annual**, **4"/4.5"/Quart**, 1 (ppp), 11-12 (weeks), Summer, ADT 68°F (20°C) **PGR** daminozide 2,500-3,000 ppm Spray **Annual**, **4"/4.5"/Quart**, 1 (ppp), 10-11 (weeks), Summer, ADT 74°F (23°C) **PGR** uniconazole 5-10 ppm Spray **Annual**, **4"/4.5"/Quart**, 1 (ppp), 10-11 (weeks), Summer, ADT 78°F (26°C) **PGR** paclobutrazol 20-30 ppm Spray **Annual**, **4"/4.5"/Quart**, 1 (ppp), 10-11 (weeks), Summer, ADT 78°F (26°C) **PGR** uniconazole 10 ppm Spray **Annual**, **4"/4.5"/Quart**, 1 (ppp), 11-12 (weeks), Summer, ADT 68°F (20°C) **Annual**, **4"/4.5"/Quart**, 1 (ppp), 12-14 (weeks), Late Spring, ADT 65°F (18°C) **Annual**, **4"/4.5"/Quart**, 1 (ppp), 12-13 (weeks), Autumn, ADT 68°F (20°C) **PGR** daminozide 2,500-3,000 ppm Spray **Annual**, **4"/4.5"/Quart**, 1 (ppp), 12-13 (weeks), Autumn, ADT 68°F (20°C) **PGR** paclobutrazol 20-30 ppm Spray **Annual**, **5"/6"/1 Gallon**, 1-3 (ppp), 12-15 (weeks), Late Spring, ADT 65°F (18°C) **Annual**, **5"/6"/1 Gallon**, 1 (ppp), 11-12 (weeks), Summer, ADT 68°F (20°C)	Provide an active climate, with high light and air movement. For larger than 1 Gallon, use multiple plugs (i.e., 2 Gallon : 3-4 plugs per pot)
	No	**Annual**, **4"/4.5"/Quart**, 1 (ppp), 13-17 (weeks), Summer **PGR** paclobutrazol 30 ppm Spray **Annual**, **4"/4.5"/Quart**, 1 (ppp), 13-17 (weeks), Summer **PGR** uniconazole 5 ppm Spray **Annual**, **5"/6"/1 Gallon**, 2-3 (ppp), 13-17 (weeks), Summer **PGR** paclobutrazol 30 ppm Spray **Annual**, **5"/6"/1 Gallon**, 2-3 (ppp), 13-17 (weeks), Summer **PGR** uniconazole 5 ppm Spray **Forcing**, **5"/6"/1 Gallon**, 2-3 (ppp), 11-13 (weeks), Spring, ADT 68°F (20°C) **Forcing**, **5"/6"/1 Gallon**, 2-3 (ppp), 9-10 (weeks), Autumn, ADT 68°F (20°C) **Forcing**, **8"/2 Gallon**, 4-6 (ppp), 9-10 (weeks), Autumn, ADT 68°F (20°C) **Forcing**, **8"/2 Gallon**, 4-6 (ppp), 11-13 (weeks), Spring, ADT 68°F (20°C)	Avoid drought stress. Grow evenly moist but not wet. Monitor for Snails, Slugs, Root and Crown Rot, Pythium, Phytophthora (if too wet). Control Thrips, as Lobelia is very susceptible to INSV damage.
	No	**Overwinter**, **4"/4.5"/Quart**, 1 (ppp), 16-22 (weeks), Early Spring **PGR** daminozide/chlormequat chloride tank mix 3,500-750 ppm Spray **Annual**, **4"/4.5"/Quart**, 1 (ppp), 7-9 (weeks), Spring **PGR** daminozide/chlormequat chloride tank mix 3,500-750 ppm Spray	Maintain low pH. Myosotis suffer from chlorosis at high pH. Grow like Primula acaulis. See GrowerFacts for details on how to mitigate chlorosis caused by high pH.
	No	**Annual**, **4"/4.5"/Quart**, 1 (ppp), 8-12 (weeks), Late Spring **PGR** daminozide 2,500 ppm Spray **Annual**, **5"/6"/1 Gallon**, 2-3 (ppp), 8-12 (weeks), Late Spring **PGR** daminozide 2,500 ppm Spray	Grow relatively dry. Prevent Mg and Fe deficiencies. Monitor for Botrytis, Downy Mildew and Aphids.
	No	**Annual**, **4"/4.5"/Quart**, 1 (ppp), 8-12 (weeks), Late Spring **PGR** daminozide 2,500 ppm Spray **Annual**, **5"/6"/1 Gallon**, 2-3 (ppp), 8-12 (weeks), Late Spring **PGR** daminozide 2,500 ppm Spray	Grow relatively dry. Prevent Mg and Fe deficiencies. Monitor for Botrytis, Downy Mildew and Aphids.

CLASS/SERIES	HARDINESS ZONE	RECOMMENDED PLUG SIZE	GROWING ON TEMPERATURE (DAYS/NIGHTS)	TARGET MEDIA PH/EC	DAYLENGTH
PAPAVER *Papaver nudicaule* **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 *Penstemon x mexicali* **Carillo Series**	5-7	288 128*	**(day)** 65-72°F (18-22°C) **(night)** 55-59°F (13-15°C)	5.8-6.5 pH 1.1-1.4 mmhos/cm	Facultative Long Day Critical daylength 13 hrs. For more info: See Perennials Forcing Guide.
PENSTEMON *Penstemon heterophyllus* **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 *Perovskia atriplicifolia* **Blue Steel**	4-9	288 128*	**(day)** 60-68°F (16-20°C) **(night)** 55-60°F (13-16°C)	5.8-6.2 pH 1.2-1.4 mmhos/cm	Day Neutral Light accumulator – higher light levels increase development and finish.
RUDBECKIA *Rudbeckia fulgida var. sullivantii* **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. For forcing info: see Perennials Forcing Guide.
SALVIA *Salvia nemorosa* **New Dimension™ Series**	4-8	288 128*	**(day)** 60-72°F (16-22°C) **(night)** 50-59°F (10-15°C)	5.5-6.2 pH 0.9-1.3 mmhos/cm	Facultative Long Day For forcing info: See Perennials Forcing Guide.
SALVIA *Salvia patens* **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.

* Preferred plug size for forcing culture

	VERNALIZATION REQUIRED	FINISHING PROGRAMS FOR ANNUAL AND OVERWINTER PRODUCTION	KEY TIPS
	No	**Annual**, **4"/4.5"/Quart**, 1 (ppp), 5-10 (weeks), Late Spring **Annual**, **5"/6"/1 Gallon**, 2-3 (ppp), 6-11 (weeks), Late Spring	Suffers from chlorosis at high pH (above 6.1), due to iron deficiency. Moderate fertilization, well-drained soil.
	No	**Annual**, **4"/4.5"/Quart**, 1 (ppp), 12-14 (weeks), Late Spring **PGR** daminozide 1,500-2,500 ppm Spray **Annual**, **4"/4.5"/Quart**, 1 (ppp), 12-14 (weeks), Summer **PGR** daminozide 1,500-2,500 ppm Spray **Annual**, **5"/6"/1 Gallon**, 2-3 (ppp), 12-14 (weeks), Late Spring **PGR** daminozide 1,500-2,500 ppm Spray **Annual**, **5"/6"/1 Gallon**, 2-3 (ppp), 12-14 (weeks), Summer **PGR** daminozide 1,500-2,500 ppm Spray	Needs high light. Low RH. Grow relatively dry. Prevent Mg and Fe deficiency. Monitor for Leafspot, Powdery Mildew, Slugs, Snails and Leaf Eelworm. Carillo Red is more sensitive to cold, showing yellow leaf tips that will reverse with higher temp.
	No - but beneficial; cooled plants flower more uniformly and faster than non-cooled plants; duration of 10 weeks at 41°F (5°C)	**Annual**, **4"/4.5"/Quart**, 1 (ppp), 11-13 (weeks), Summer **Annual**, **4"/4.5"/Quart**, 1 (ppp), 12-14 (weeks), Late Spring **Annual**, **5"/6"/1 Gallon**, 2-3 (ppp), 11-13 (weeks), Summer **Annual**, **5"/6"/1 Gallon**, 2-3 (ppp), 12-14 (weeks), Late Spring	Bulking prior to vernalization ensures pot-fill and improves flowering uniformity. Monitor for Whiteflies.
	No	**Annual**, **4"/4.5"/Quart**, 1 (ppp), 9-10 (weeks), Summer **PGR** daminozide 2,500-3,000 ppm Spray **Annual**, **4"/4.5"/Quart**, 1 (ppp), 11-13 (weeks), Late Spring, ADT 68°F (20°C) **PGR** daminozide 2,500-3,000 ppm Spray **Annual**, **4"/4.5"/Quart**, 1 (ppp), 9-10 (weeks), Autumn, ADT 68°F (20°C) **PGR** daminozide 2,500-3,000 ppm Spray **Annual**, **5"/6"/1 Gallon**, 1-3 (ppp), 10-11 (weeks), Summer **PGR** daminozide 2,500-3,000 ppm Spray **Annual**, **5"/6"/1 Gallon**, 1-3 (ppp), 12-14 (weeks), Late Spring, ADT 68°F (20°C) **PGR** daminozide 2,500-3,000 ppm Spray **Annual**, **5"/6"/1 Gallon**, 1-3 (ppp), 10-11 (weeks), Autumn, ADT 68°F (20°C) **PGR** daminozide 2,500-3,000 ppm Spray **Annual**, **8"/2 Gallon**, 3-5 (ppp), 13-15 (weeks), Late Spring **PGR** daminozide 5,000 ppm Spray **Annual**, **8"/2 Gallon**, 3-5 (ppp), 11-13 (weeks), Autumn, ADT 68°F (20°C) **PGR** daminozide 5,000 ppm Spray **Annual**, **8"/2 Gallon**, 3-5 (ppp), 11-13 (weeks), Summer, ADT 68°F (20°C) **PGR** daminozide 5,000 ppm Spray	Needs active growing climate with highest possible light levels. Optimum larger than 15 Mol per m² per day. Can grow in lower light levels, but increases crop time (see lead time per season). Do not start crop too early in cold nights and lower light levels, will cause delay. Best grown outside. Finish lead times for Northwest Europe: add 2 to 3 weeks to indicated lead times. Allow media to dry in between waterings. Avoid growing wet. Monitor EC in pot during active growth to avoid leaf yellowing (chlorosis). Gallon is main size; recommend 3 ppp, potted in triangle, for superior finished quality (compared to veg. 1 plant per pot). If plugs are not pinched, pinch 2 to 3 weeks after transplant, above 4 to 5 leaf node pairs. NOTE: Pinch not needed for larger (2 gallon and up) containers. Instead, use higher B-Nine concentration 5,000 ppm for 1 to 2 applications, the first 2 to 3 weeks after transplant.
	No	**Annual**, **4"/4.5"/Quart**, 1 (ppp), 16-23 (weeks), Summer **PGR** paclobutrazol 20-30 ppm Spray **Annual**, **4"/4.5"/Quart**, 1 (ppp), 16-23 (weeks), Summer **PGR** uniconazole 5-10 ppm Spray **Annual**, **5"/6"/1 Gallon**, 2-3 (ppp), 16-24 (weeks), Summer **PGR** paclobutrazol 20-30 ppm Spray **Annual**, **5"/6"/1 Gallon**, 2-3 (ppp), 16-24 (weeks), Summer **PGR** uniconazole 5-10 ppm Spray **Overwinter**, **5"/6"/1 Gallon**, 1 (ppp), 32-34 (weeks), Summer **PGR** uniconazole 5-10 ppm Spray **Overwinter**, **8"/2 Gallon**, 3-5 (ppp), 32-34 (weeks), Summer **PGR** paclobutrazol 20-30 ppm Spray	Relatively high feeder. Use long day or night interruption to finish early pottings or use vernalized plugs. Prevent Mg and Fe deficiency. Monitor for Botrytis and Downy Mildew. High light and good ventilation are beneficial. For Autumn forcing info: See Perennials Forcing Guide.
	No	**Annual**, **4"/4.5"/Quart**, 1 (ppp), 7-9 (weeks), Summer **PGR** daminozide 1,500-2,000 ppm Spray **Annual**, **4"/4.5"/Quart**, 1 (ppp), 8-11 (weeks), Late Spring **PGR** daminozide 1,500-2,000 ppm Spray **Overwinter**, **5"/6"/1 Gallon**, 1 (ppp), 24-28 (weeks), Spring **PGR** daminozide 1,500-2,000 ppm Spray **Annual**, **5"/6"/1 Gallon**, `3-4 (ppp), 7-9 (weeks), Summer **PGR** daminozide 1,500-2,000 ppm Spray **Annual**, **5"/6"/1 Gallon**, 3-4 (ppp), 8-11 (weeks), Late Spring **PGR** daminozide 1,500-2,000 ppm Spray **Overwinter**, **8"/2 Gallon**, 3-5 (ppp), 24-28 (weeks), Spring **PGR** daminozide 1,500-2,000 ppm Spray	Grow relatively dry. Avoid leaf 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.
	No	**Annual**, **4"/4.5"/Quart**, 1 (ppp), 7-11 (weeks), Late Spring **PGR** daminozide 1,500-2,000 ppm Spray **Annual**, **5"/6"/1 Gallon**, 3-4 (ppp), 7-11 (weeks), Late Spring **PGR** daminozide 1,500-2,000 ppm Spray	Grow relatively dry. Use well-drained medium. Prevent Mg and Fe deficiency. Monitor for Botrytis, Downy Mildew, Aphids and Spider Mites. High light and good ventilation are beneficial.

CLASS/SERIES	HARDINESS ZONE	RECOMMENDED PLUG SIZE	GROWING ON TEMPERATURE (DAYS/NIGHTS)	TARGET MEDIA PH/EC	DAYLENGTH	
SALVIA *Salvia nemorosa* **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 Salvia New Dimension, 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.	
SAXIFRAGA *Saxifraga x arendsii* **Rocco Red**	4-7	288	**(day)** 60-65°F (16-18°C) **(night)** 40-50°F (4-10°C)	5.8-6.2 pH 1.0-1.2 mmhos/cm	Day Neutral	
SCABIOSA *Scabiosa columbaria* **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 *Scabiosa japonica var. alpina* **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 *Silene alpestris* **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 *Verbascum x hybrida* **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 *Verbena bonariensis* **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 *Verbena rigida* **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.	
VERONICA *Veronica spicata* **Blue Bouquet**	5-8	288	**(day)** 65°F (18°C) **(night)** 55-65°F (13-18°C)	5.5-6.2 pH 1.3-1.5 mmhos/cm	Day Neutral	

* Preferred plug size for forcing culture

	VERNALIZATION REQUIRED	FINISHING PROGRAMS FOR ANNUAL AND OVERWINTER PRODUCTION	KEY TIPS
	No	**Annual**, **4"/4.5"/Quart**, 1 (ppp), 7-8 (weeks), Summer, ADT 62°F (17°C) **PGR** daminozide 1,500-2,000 ppm Spray **Annual**, **4"/4.5"/Quart**, 1 (ppp), 8-10 (weeks), Spring **PGR** daminozide 1,500-2,000 ppm Spray **Overwinter**, **4"/4.5"/Quart**, 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**, 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**, 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**, 1-3 (ppp), 8-10 (weeks), Spring **PGR** daminozide 1,500-2,000 ppm Spray	Salvatore Blue needs a little higher fertilization level than New Dimension Blue, per the Target Media EC. With Salvia nemorosa, 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.
	Yes - duration of 12 weeks at 41°F (5°C)	**Overwinter**, **4"/4.5"/Quart**, 1 (ppp), 28-36 (weeks), Early Spring	Very well-drained medium. Prevent Mg and Fe deficiency. Grown best slightly dry to average moisture. Water thoroughly and allow to dry moderately. Monitor for Botrytis and Spider Mites.
	No	**Annual**, **4"/4.5"/Quart**, 1 (ppp), 12-14 (weeks), Late Spring **Overwinter**, **4"/4.5"/Quart**, 1 (ppp), 26-34 (weeks), Spring **Annual**, **5"/6"/1 Gallon**, 3-4 (ppp), 12-14 (weeks), Late Spring	Needs high light, low RH. Grow relatively dry. Prevent Mg and Fe deficiency. Early-Spring forcing needs increased temperature during 6 weeks at 62 to 65°F (17 to 18°C), no long days. For forcing info for Mother's Day: See Perennials Forcing Guide.
	No	**Annual**, **4"/4.5"/Quart**, 1 (ppp), 12-14 (weeks), Late Spring **Overwinter**, **4"/4.5"/Quart**, 1 (ppp), 26-34 (weeks), Spring **Annual**, **5"/6"/1 Gallon**, 3-4 (ppp), 12-14 (weeks), Late Spring	Needs high light, low RH. Grow relatively dry. Prevent Mg and Fe deficiency. Early Spring forcing needs increased temperature during 6 weeks at 62-65, no long days. For forcing info for Mother's Day: See Perennials Forcing Guide.
	No	**Annual**, **4"/4.5"/Quart**, 1 (ppp), 10-14 (weeks), Late Spring **PGR** daminozide 2,000-2,500 ppm Spray **Annual**, **5"/6"/1 Gallon**, 3-4 (ppp), 10-14 (weeks), Late Spring **PGR** daminozide 2,000-2,500 ppm Spray	Low to moderate fertilization. Grow uniformly moist. Prevent Mg and Fe deficiency. Monitor for Aphids, Spider Mites, Slugs and Snails.
	No	**Annual**, **5"/6"/1 Gallon**, 1 (ppp), 12-14 (weeks), Summer	Flowering more uniform under high light conditions.
	No	**Annual**, **4"/4.5"/Quart**, 1 (ppp), 11-13 (weeks), Late Spring **Annual**, **5"/6"/1 Gallon**, 1-3 (ppp), 10-11 (weeks), Autumn, ADT 68°F (20°C) **PGR** daminozide 2,500-5,000 ppm Spray	Primarily sold green. Grow dry and light. Relatively high fertilization. Avoid high N. Prevent Mg and Fe deficiency.
	No	**Annual**, **4"/4.5"/Quart**, 1 (ppp), 11-14 (weeks), Late Spring **PGR** daminozide/chlormequat chloride tank mix 2,000-2,500 ppm Spray **Annual**, **4"/4.5"/Quart**, 1 (ppp), 11-14 (weeks), Late Spring **PGR** daminozide 2,000-2,500 ppm Spray **Annual**, **5"/6"/1 Gallon**, 3-4 (ppp), 10-13 (weeks), Summer **PGR** daminozide/chlormequat chloride tank mix 2,000-750 ppm Spray **Annual**, **5"/6"/1 Gallon**, 3-4 (ppp), 10-13 (weeks), Summer **PGR** daminozide 2,000-2,500 ppm Spray **Annual**, **5"/6"/1 Gallon**, 3-4 (ppp), 11-14 (weeks), Late Spring **PGR** daminozide/chlormequat chloride tank mix 2,000-750 ppm Spray **Annual**, **5"/6"/1 Gallon**, 3-4 (ppp), 11-14 (weeks), Late Spring **PGR** daminozide 2,000-2,500 ppm Spray	Grow dry and light. Relatively high fertilization. Avoid high N. Prevent Mg and Fe deficiency.
	No	**Annual**, **5"/6"/1 Gallon**, 1 (ppp), 14-18 (weeks), Summer	

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	*pseudarmeria*	**Ballerina**	7-9	49	288	7	No
CAMPANULA	*carpatica*	**Rapido**	3-9	48-49	288	10	Yes
COREOPSIS	*grandiflora*	**Double the Sun**	4-9	51-52	128	8	Yes
COREOPSIS	*grandiflora*	**Early Sunrise**	4-9	49-50	128	8	Yes
COREOPSIS	*grandiflora*	**Sunfire**	4-9	51-52	128	8	Yes
COREOPSIS	*grandiflora*	**SunKiss**	4-9	51-52	128	8	Yes
DELPHINIUM	*elatum*	**Dasante Blue**	4-7	51-52	288	6-7	No
DELPHINIUM	*elatum*	**Guardian**	4-7	51-52	288	6-7	No
DELPHINIUM	*belladonna*	**Blue Donna**	5-9	51-52	288	6-8	No
DELPHINIUM	*grandiflorum*	**Diamonds Blue**	4-9	51-52	288	7	No
DIANTHUS	*barbatus interspecific*	**Rockin'**	5-8	1-2	288	5	No
DIGITALIS	*purpurea*	**Dalmatian**	5-9	52-1	128	7	Yes
ECHINACEA	*hybrida*	**Artisan Red Ombre and Soft Orange**	4-10	45-46	288 to 72+	13-15 weeks; SD from 2 to 7 true leaves	Yes
ECHINACEA	*hybrida*	**Cheyenne Spirit**	4-10	45-46	288 to 72+	13-15 weeks; SD from 2 to 7 true leaves	Yes
ECHINACEA	*purpurea*	**PowWow**	4-10	45-46	288 to 72+	13-15 weeks; SD from 2 to 7 true leaves	Yes
GAILLARDIA	*grandiflora*	**Mesa Bright Bicolor**	5-10	52-1	128	7	Yes
GAILLARDIA	*grandiflora*	**Mesa Yellow**	5-10	52-1	128	7	Yes
GAILLARDIA	*grandiflora*	**Mesa Peach**	5-10	52-1	128	7	Yes
GAILLARDIA	*grandiflora*	**Mesa Red**	5-10	52-1	128	7	Yes
GAURA	*lindheimeri*	**Sparkle White**	5b-9	2-3	128	8	Yes
HEUCHERA	*micrantha*	**Palace Purple**	4-8	47-48	288	10-11	No
HEUCHERA	*hybrida*	**Melting Fire**	4-8	46-47	288	10-11	No
HIBISCUS	*moscheutos*	**Luna**	5-9	-	-	-	-
LAVANDULA	*angustifolia*	**Avignon Early Blue**	6-8	46-47	288	7	No
LAVANDULA	*angustifolia*	**Blue Spear**	6-8	-	-	-	-
LAVANDULA	*angustifolia*	**Ellagance Purple**	5b-8a	46-47	288	7	No
LAVANDULA	*angustifolia*	**Lavance Deep Purple**	5-8	-	-	-	-
LAVANDULA	*stoechas*	**Bandera**	7-10	46-47	288	7	No
LEUCANTHEMUM	*x superbum*	**Madonna**	3b-9a	-	-	-	-
LOBELIA	*speciosa*	**Starship**	6-10	45-46	288 to 72+	13-15 weeks; 10-hour SD bulk to 10 leaves	Yes
LOBELIA	*speciosa*	**Starship Scarlet Bronze Leaf**	6-10	44-45	288 to 72+	14-16 weeks; 10-hour SD bulk to 10 leaves	Yes
ORIGANUM	*hybrida*	**Kirigami**	5b-8a	52-1	128	6-7	Yes
PENSTEMON	*mexicali*	**Carillo**	5-7	52-1	128	7-8	Yes
PEROVSKIA	*atriplicifolia*	**Blue Steel**	4-9	48-49	128	6-8	No
RUDBECKIA	*fulgida*	**Goldsturm**	3-9	40-42	288 to 50+	15-16 weeks; SD from 2 to 10 true leaves	Yes
SALVIA	*nemorosa*	**New Dimension**	4-8	1-2	128	7	Yes
SALVIA	*nemorosa*	**Salvatore Blue**	4-8	1-2	128	7	No
SALVIA	*patens*	**Patio**	8-10	1-2	128	7	Yes
SCABIOSA	*columbaria*	**Blue Note**	5-7	49-51	128	8-9	No
SCABIOSA	*japonica*	**Pink Diamonds**	5-7	49-51	128	8-9	No
VERBENA	*bonariensis*	**Buenos Aires**	7-9	-	-	-	-
VERBENA	*rigida*	**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	I QT	I 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	288 to 72+	Yes	11 weeks; SD from 2 to 7 true leaves	8-9	1	1	3	4
12	68/20	14-16	288 to 72+	Yes	11 weeks; SD from 2 to 7 true leaves	8-9	1	1	3	4
12	68/20	14-16	288 to 72+	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
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	-
10-11	65/18	-	-	-	-	-	1	2-3	3-5	-
10-14	65/18 Needs low RH and high light in South regions	19-20	128	No	6-7	9-10	1	3	4	5
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.

SEED PRODUCT INFORMATION GUIDE

ANNUALS PROPAGATION GUIDE P. 6 / FINISHING GUIDE P. 46

PERENNIALS PROPAGATION GUIDE P. 84 / FINISHING GUIDE P. 100 / FORCING GUIDE P. 118

CUT FLOWERS PROPAGATION GUIDE P. 142 / FINISHING GUIDE P. 152

HANDPICKED VEGETABLES & HERBS PROPAGATION GUIDE P. 162 / FINISHING GUIDE P. 176

PanAmerican Seed®

POTTED PLANTS

CLASS/SERIES	SEED FORM	RECOMMENDED PLUG SIZE	PLUG CROP WEEKS	SEEDS/ CELL	COVER SEED	DAYS TO GERMINATE	INITIAL MEDIA PH/EC	STAGE 1	
CAMPANULA *Campanula medium* **Campanella™ F1 Series**	PEL	288	6-7	1	No	10-14	5.8-6.2 pH 0.7-1.0 mmhos/cm	**(m)** Level 4-5 **(t)** 65-68°F (18-20°C) **(f)** Less than 100 ppm N - Less than 0.7 EC	
CELOSIA *Celosia cristata* **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 *Celosia spicata* **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 *Exacum affine* **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 *Exacum affine* **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 *Gerbera jamesonii* **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 *Gerbera jamesonii* **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 *Gerbera jamesonii* **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 *Hypoestes phyllostachya* **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	

	STAGE 2	STAGE 3	STAGE 4	KEY TIPS
	(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 3-4 **(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 two weeks after sowing. This prevents initiate flowers in the plug stage and results in the right plant habit for filling pots nicely after transplant. After transplant, long days > 14 hours are needed to initiate flowering. Keep long days for the rest of the plug stage (4 to 5 weeks). 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 $mol \cdot m^{-2} \cdot d^{-1}$, 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 $mol \cdot m^{-2} \cdot d^{-1}$, 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 $mol \cdot m^{-2} \cdot d^{-1}$, 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 $mol \cdot m^{-2} \cdot d^{-1}$, 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 $mol \cdot m^{-2} \cdot d^{-1}$, 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 $mol \cdot m^{-2} \cdot d^{-1}$, 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.

CLASS/SERIES	SEED FORM	RECOMMENDED PLUG SIZE	PLUG CROP WEEKS	SEEDS/ CELL	COVER SEED	DAYS TO GERMINATE	INITIAL MEDIA PH/EC	STAGE 1	
LISIANTHUS *Eustoma grandiflorum* **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	
PEPPER (EDIBLE POTTED) *Capsicum annuum* **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) *Capsicum annuum* **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) *Capsicum annuum* **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) *Capsicum annuum* **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) *Capsicum annuum* **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	

	STAGE 2	STAGE 3	STAGE 4	KEY TIPS
	(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) Level 3-4 **(t)** 68-70°F (20-21°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 2-4 **(t)** 68-70°F (20-21°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 175 to 225 ppm N - 1.2 to 1.5 EC **(p)** uniconazole 2.5 ppm Spray	**(m)** Level 2-4 **(t)** 68-70°F (20-21°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** 175 to 225 ppm N - 1.2 to 1.5 EC **(p)** uniconazole 2.5 ppm Spray	To ensure a uniform crop, growth regulator should be applied with a fine mist. For more vigorous varieties, an application of uniconazole 2.5 ppm at 10 to 12 days after sowing, repeated 2 weeks later if needed, will help control plant size. To bench germ: Make sure trays are watered before covering. Flat covering: first place one layer of reemay, then one layer of white plastic on top of that. Remove plastic after 8 to 10 days. Keep reemay wet. Remove reemay after another 2 to 3 days.
	(m) Level 3-4 **(t)** 68-70°F (20-21°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 2-4 **(t)** 68-70°F (20-21°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 175 to 225 ppm N - 1.2 to 1.5 EC **(p)** uniconazole 2.5 ppm Spray	**(m)** Level 2-4 **(t)** 68-70°F (20-21°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** 175 to 225 ppm N - 1.2 to 1.5 EC **(p)** uniconazole 2.5 ppm Spray	To ensure a uniform crop, growth regulator should be applied with a fine mist 10 to 12 days after sowing. An application of uniconazole 2.5 ppm will help control plant size. To bench germ: Make sure trays are watered before covering. Flat covering: first place one layer of reemay, then one layer of white plastic on top of that. Remove plastic after 8 to 10 days. Keep reemay wet. Remove reemay after another 2 to 3 days.
	(m) Level 3-4 **(t)** 68-70°F (20-21°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 2-4 **(t)** 68-70°F (20-21°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 175 to 225 ppm N - 1.2 to 1.5 EC **(p)** uniconazole 2.5 ppm Spray	**(m)** Level 2-4 **(t)** 68-70°F (20-21°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** 175 to 225 ppm N - 1.2 to 1.5 EC **(p)** uniconazole 2.5 ppm Spray	To ensure a uniform crop, growth regulator should be applied with a fine mist. For more vigorous varieties, an application of uniconazole 2.5 ppm at 10 to 12 days after sowing, repeated 2 weeks later if needed, will help control plant size. To bench germ: Make sure trays are watered before covering. Flat covering: first place one layer of reemay, then one layer of white plastic on top of that. Remove plastic after 8 to 10 days. Keep reemay wet. Remove reemay after another 2 to 3 days.
	(m) Level 3-4 **(t)** 68-70°F (20-21°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 2-4 **(t)** 68-70°F (20-21°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 175 to 225 ppm N - 1.2 to 1.5 EC **(p)** uniconazole 2.5 ppm Spray	**(m)** Level 2-4 **(t)** 68-70°F (20-21°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** 175 to 225 ppm N - 1.2 to 1.5 EC **(p)** uniconazole 2.5 ppm Spray	To ensure a uniform crop, growth regulator should be applied with a fine mist. For more vigorous varieties, an application of uniconazole 2.5 ppm at 10 to 12 days after sowing, repeated 2 weeks later if needed, will help control plant size. To bench germ: Make sure trays are watered before covering. Flat covering: first place one layer of reemay, then one layer of white plastic on top of that. Remove plastic after 8 to 10 days. Keep reemay wet. Remove reemay after another 2 to 3 days.
	(m) Level 3-4 **(t)** 68-70°F (20-21°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 2-4 **(t)** 68-70°F (20-21°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 175 to 225 ppm N - 1.2 to 1.5 EC **(p)** uniconazole 2.5 ppm Spray	**(m)** Level 2-4 **(t)** 68-70°F (20-21°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** 175 to 225 ppm N - 1.2 to 1.5 EC **(p)** uniconazole 2.5 ppm Spray	To ensure a uniform crop, growth regulator should be applied with a fine mist. For more vigorous varieties, an application of uniconazole 2.5 ppm at 10 to 12 days after sowing, repeated 2 weeks later if needed, will help control plant size. To bench germ: Make sure trays are watered before covering. Flat covering: first place one layer of reemay, then one layer of white plastic on top of that. Remove plastic after 8 to 10 days. Keep reemay wet. Remove reemay after another 2 to 3 days.

CLASS/SERIES	SEED FORM	RECOMMENDED PLUG SIZE	PLUG CROP WEEKS	SEEDS/ CELL	COVER SEED	DAYS TO GERMINATE	INITIAL MEDIA PH/EC	STAGE 1	
PEPPER (EDIBLE POTTED) *Capsicum annuum* **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	
PEPPER (EDIBLE POTTED) *Capsicum annuum* **Hot Lemon**	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) *Capsicum annuum* **Hot Tomato**	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) *Capsicum annuum* **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) *Capsicum annuum* **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) *Capsicum annuum* **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	

	STAGE 2	STAGE 3	STAGE 4	KEY TIPS
	(m) Level 3-4 **(t)** 68-70°F (20-21°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 2-4 **(t)** 68-70°F (20-21°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 175 to 225 ppm N - 1.2 to 1.5 EC **(p)** uniconazole 2.5 ppm Spray	**(m)** Level 2-4 **(t)** 68-70°F (20-21°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** 175 to 225 ppm N - 1.2 to 1.5 EC **(p)** uniconazole 2.5 ppm Spray	To ensure a uniform crop, growth regulator should be applied with a fine mist. For more vigorous varieties, an application of uniconazole 2.5 ppm at 10 to 12 days after sowing, repeated 2 weeks later if needed, will help control plant size. To bench germ: Make sure trays are watered before covering. Flat covering: first place one layer of reemay, then one layer of white plastic on top of that. Remove plastic after 8 to 10 days. Keep reemay wet. Remove reemay after another 2 to 3 days.
	(m) Level 3-4 **(t)** 68-70°F (20-21°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 2-4 **(t)** 68-70°F (20-21°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 175 to 225 ppm N - 1.2 to 1.5 EC **(p)** uniconazole 2.5 ppm Spray	**(m)** Level 2-4 **(t)** 68-70°F (20-21°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** 175 to 225 ppm N - 1.2 to 1.5 EC **(p)** uniconazole 2.5 ppm Spray	To ensure a uniform crop, growth regulator should be applied with a fine mist. For more vigorous varieties, an application of uniconazole 2.5 ppm at 10 to 12 days after sowing, repeated 2 weeks later if needed, will help control plant size. To bench germ: Make sure trays are watered before covering. Flat covering: first place one layer of reemay, then one layer of white plastic on top of that. Remove plastic after 8 to 10 days. Keep reemay wet. Remove reemay after another 2 to 3 days.
	(m) Level 3-4 **(t)** 68-70°F (20-21°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 2-4 **(t)** 68-70°F (20-21°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 175 to 225 ppm N - 1.2 to 1.5 EC **(p)** uniconazole 2.5 ppm Spray	**(m)** Level 2-4 **(t)** 68-70°F (20-21°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** 175 to 225 ppm N - 1.2 to 1.5 EC **(p)** uniconazole 2.5 ppm Spray	To ensure a uniform crop, growth regulator should be applied with a fine mist. For more vigorous varieties, an application of uniconazole 2.5 ppm at 10 to 12 days after sowing, repeated 2 weeks later if needed, will help control plant size. To bench germ: Make sure trays are watered before covering. Flat covering: first place one layer of reemay, then one layer of white plastic on top of that. Remove plastic after 8 to 10 days. Keep reemay wet. Remove reemay after another 2 to 3 days.
	(m) Level 3-4 **(t)** 68-70°F (20-21°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 2-4 **(t)** 68-70°F (20-21°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 175 to 225 ppm N - 1.2 to 1.5 EC **(p)** uniconazole 2.5 ppm Spray	**(m)** Level 2-4 **(t)** 68-70°F (20-21°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** 175 to 225 ppm N - 1.2 to 1.5 EC **(p)** uniconazole 2.5 ppm Spray	To ensure a uniform crop, growth regulator should be applied with a fine mist 10 to 12 days after sowing. An application of uniconazole 2.5 ppm will help control plant size. To bench germ: Make sure trays are watered before covering. Flat covering: first place one layer of reemay, then one layer of white plastic on top of that. Remove plastic after 8 to 10 days. Keep reemay wet. Remove reemay after another 2 to 3 days.
	(m) Level 3-4 **(t)** 68-70°F (20-21°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 2-4 **(t)** 68-70°F (20-21°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 175 to 225 ppm N - 1.2 to 1.5 EC **(p)** uniconazole 2.5 ppm Spray	**(m)** Level 2-4 **(t)** 68-70°F (20-21°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** 175 to 225 ppm N - 1.2 to 1.5 EC **(p)** uniconazole 2.5 ppm Spray	To ensure a uniform crop, growth regulator should be applied with a fine mist. For more vigorous varieties, an application of uniconazole 2.5 ppm at 10 to 12 days after sowing, repeated 2 weeks later if needed, will help control plant size. To bench germ: Make sure trays are watered before covering. Flat covering: first place one layer of reemay, then one layer of white plastic on top of that. Remove plastic after 8 to 10 days. Keep reemay wet. Remove reemay after another 2 to 3 days.
	(m) Level 3-4 **(t)** 68-70°F (20-21°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 2-4 **(t)** 68-70°F (20-21°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 175 to 225 ppm N - 1.2 to 1.5 EC **(p)** uniconazole 2.5 ppm Spray	**(m)** Level 2-4 **(t)** 68-70°F (20-21°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** 175 to 225 ppm N - 1.2 to 1.5 EC	Although 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.

CLASS/SERIES	SEED FORM	RECOMMENDED PLUG SIZE	PLUG CROP WEEKS	SEEDS/ CELL	COVER SEED	DAYS TO GERMINATE	INITIAL MEDIA PH/EC	STAGE 1	
PEPPER (EDIBLE POTTED) *Capsicum annuum* **Yellow Tomato**	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 (ORNAMENTAL) *Capsicum annuum* **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) *Capsicum annuum* **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) *Capsicum annuum* **Chilly Chili F_1**	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) *Capsicum annuum* **Coba**	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) *Capsicum annuum* **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) *Capsicum annuum* **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	

	STAGE 2	STAGE 3	STAGE 4	KEY TIPS
	(m) Level 3-4 **(t)** 68-70°F (20-21°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 2-4 **(t)** 68-70°F (20-21°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 175 to 225 ppm N - 1.2 to 1.5 EC **(p)** uniconazole 2.5 ppm Spray	**(m)** Level 2-4 **(t)** 68-70°F (20-21°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** 175 to 225 ppm N - 1.2 to 1.5 EC **(p)** uniconazole 2.5 ppm Spray	To ensure a uniform crop, growth regulator should be applied with a fine mist. For more vigorous varieties, an application of uniconazole 2.5 ppm at 10 to 12 days after sowing, repeated 2 weeks later if needed, will help control plant size. To bench germ: Make sure trays are watered before covering. Flat covering: first place one layer of reemay, then one layer of white plastic on top of that. Remove plastic after 8 to 10 days. Keep reemay wet. Remove reemay after another 2 to 3 days.
	(m) Level 3-4 **(t)** 68-70°F (20-21°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC **(p)** daminozide 2,000 ppm Spray	**(m)** Level 2-4 **(t)** 68-70°F (20-21°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 175 to 225 ppm N - 1.2 to 1.5 EC **(p)** daminozide 2,000 ppm Spray	**(m)** Level 2-4 **(t)** 68-70°F (20-21°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** 175 to 225 ppm N - 1.2 to 1.5 EC	Apply daminozide 2,000 ppm spray 10 days after sowing, when cotyledons are fully expanded. Repeat 7 to 10 days later as needed. Alternatively for more vigorous varieties, use uniconazole 2.5 ppm spray 14 days after sowing, repeated 14 days later as needed. To bench germ: Make sure trays are watered before covering. Flat covering: first place one layer of reemay, then one layer of white plastic on top of that. Remove plastic after 8 to 10 days. Keep reemay wet. Remove reemay after another 2 to 3 days.
	(m) Level 3-4 **(t)** 68-73°F (20-23°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 2-4 **(t)** 68-70°F (20-21°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 2-4 **(t)** 68-70°F (20-21°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	Performs best under high light and warm temperatures. If necessary, uniconazole (Sumagic) at rate of 2.5 ppm can be applied at 2 weeks after sowing for height control. Repeat 2 weeks later if needed.
	(m) Level 3-4 **(t)** 68-73°F (20-23°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 2-4 **(t)** 68-70°F (20-21°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC **(p)** uniconazole 2.5 ppm Spray	**(m)** Level 2-4 **(t)** 68-70°F (20-21°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	Performs best under high light and warm temperatures. If necessary, uniconazole (Sumagic) at rate of 2.5 ppm can be applied at 2 weeks after sowing for height control. Repeat 2 weeks later if needed.
	(m) Level 3-4 **(t)** 68-70°F (20-21°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC **(p)** daminozide 2,000 ppm Spray	**(m)** Level 2-4 **(t)** 68-70°F (20-21°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 175 to 225 ppm N - 1.2 to 1.5 EC **(p)** daminozide 2,000 ppm Spray	**(m)** Level 2-4 **(t)** 68-70°F (20-21°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** 175 to 225 ppm N - 1.2 to 1.5 EC	Apply daminozide 2,000 ppm spray 10 days after sowing, when cotyledons are fully expanded. Repeat 7 to 10 days later as needed. Alternatively for more vigorous varieties, use uniconazole 2.5 ppm spray 14 days after sowing, repeated 14 days later as needed. To bench germ: Make sure trays are watered before covering. Flat covering: first place one layer of reemay, then one layer of white plastic on top of that. Remove plastic after 8 to 10 days. Keep reemay wet. Remove reemay after another 2 to 3 days.
	(m) Level 3-4 **(t)** 68-70°F (20-21°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC **(p)** daminozide 2,000 ppm Spray	**(m)** Level 2-4 **(t)** 68-70°F (20-21°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 175 to 225 ppm N - 1.2 to 1.5 EC **(p)** daminozide 2,000 ppm Spray	**(m)** Level 2-4 **(t)** 68-70°F (20-21°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** 175 to 225 ppm N - 1.2 to 1.5 EC	Apply daminozide 2,000 ppm spray 10 days after sowing, when cotyledons are fully expanded. Repeat 7 to 10 days later as needed. Alternatively for more vigorous varieties, use uniconazole 2.5 ppm spray 14 days after sowing, repeated 14 days later as needed. To bench germ: Make sure trays are watered before covering. Flat covering: first place one layer of reemay, then one layer of white plastic on top of that. Remove plastic after 8 to 10 days. Keep reemay wet. Remove reemay after another 2 to 3 days.
	(m) Level 3-4 **(t)** 68-70°F (20-21°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC **(p)** daminozide 2,000 ppm Spray	**(m)** Level 2-4 **(t)** 68-70°F (20-21°C) **(l)** 1,000-25,000 f.c. (10,800-269,100 Lux) **(f)** 175 to 225 ppm N - 1.2 to 1.5 EC **(p)** daminozide 2,000 ppm Spray	**(m)** Level 2-4 **(t)** 68-70°F (20-21°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** 175 to 225 ppm N - 1.2 to 1.5 EC	Apply daminozide 2,000 ppm spray 10 days after sowing, when cotyledons are fully expanded. Repeat 7 to 10 days later as needed. Alternatively for more vigorous varieties, use uniconazole 2.5 ppm spray 14 days after sowing, repeated 14 days later as needed. To bench germ: Make sure trays are watered before covering. Flat covering: first place one layer of reemay, then one layer of white plastic on top of that. Remove plastic after 8 to 10 days. Keep reemay wet. Remove reemay after another 2 to 3 days.

CLASS/SERIES	SEED FORM	RECOMMENDED PLUG SIZE	PLUG CROP WEEKS	SEEDS/ CELL	COVER SEED	DAYS TO GERMINATE	INITIAL MEDIA PH/EC	STAGE 1	
PEPPER (ORNAMENTAL) *Capsicum annuum* **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) *Capsicum annuum* **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) *Capsicum annuum* **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) *Capsicum annuum* **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	
PEPPER (ORNAMENTAL) *Capsicum annuum* **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) *Capsicum annuum* **Salsa 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) *Capsicum annuum* **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) *Capsicum annuum* **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	

	STAGE 2	STAGE 3	STAGE 4	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)** 68-70°F (20-21°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC **(p)** uniconazole 25 ppm Spray	**(m)** Level 2-4 **(t)** 68-70°F (20-21°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	Performs best under high light and warm temperatures. Hot Pops Ornamental Peppers are naturally compact and should not need PGRs. If necessary, uniconazole (Sumagic) at rate of 2.5 ppm can be applied at 2 weeks after sowing for height control. Repeat 2 weeks later if needed.
	(m) Level 3-4 **(t)** 68-70°F (20-21°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC **(p)** daminozide 2,000 ppm Spray	**(m)** Level 2-4 **(t)** 68-70°F (20-21°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 175 to 225 ppm N - 1.2 to 1.5 EC **(p)** daminozide 2,000 ppm Spray	**(m)** Level 2-4 **(t)** 68-70°F (20-21°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** 175 to 225 ppm N - 1.2 to 1.5 EC	Apply daminozide 2,000 ppm spray 10 days after sowing, when cotyledons are fully expanded. Repeat 7 to 10 days later as needed. Alternatively for more vigorous varieties, use uniconazole 2.5 ppm spray 14 days after sowing, repeated 14 days later as needed. To bench germ: Make sure trays are watered before covering. Flat covering: first place one layer of reemay, then one layer of white plastic on top of that. Remove plastic after 8 to 10 days. Keep reemay wet. Remove reemay after another 2 to 3 days.
	(m) Level 3-4 **(t)** 68-73°F (20-23°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 2-4 **(t)** 68-70°F (20-21°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC **(p)** uniconazole 2.5 ppm Spray	**(m)** Level 2-4 **(t)** 68-70°F (20-21°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	Performs best under high light and warm temperatures. If necessary, uniconazole (Sumagic) at rate of 2.5 ppm can be applied at 2 weeks after sowing for height control. Repeat 2 weeks later if needed.
	(m) Level 3-4 **(t)** 68-73°F (20-23°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 2-4 **(t)** 68-70°F (20-21°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 2-4 **(t)** 68-70°F (20-21°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	Performs best under high light and warm temperatures. Medusa is naturally compact and should not need PGRs. If necessary, uniconazole (Sumagic) at rate of 2.5 ppm can be applied at 2 weeks after sowing for height control. Repeat 2 weeks later if needed.
	(m) Level 3-4 **(t)** 68-73°F (20-23°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 2-4 **(t)** 68-70°F (20-21°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC **(p)** uniconazole 2.5 ppm Spray	**(m)** Level 2-4 **(t)** 68-70°F (20-21°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	Performs best under high light and warm temperatures. If necessary, uniconazole (Sumagic) at rate of 2.5 ppm can be applied at 2 weeks after sowing for height control. Repeat 2 weeks later if needed.
	(m) Level 3-4 **(t)** 68-70°F (20-21°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC **(p)** daminozide/ancymidol tank mix 2,000 ppm Spray	**(m)** Level 2-4 **(t)** 68-70°F (20-21°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 175 to 225 ppm N - 1.2 to 1.5 EC **(p)** daminozide 2,000 ppm Spray	**(m)** Level 2-4 **(t)** 68-70°F (20-21°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** 175 to 225 ppm N - 1.2 to 1.5 EC	Apply daminozide 2,000 ppm spray 10 days after sowing, when cotyledons are fully expanded. Repeat 7 to 10 days later as needed. Alternatively for more vigorous varieties, use uniconazole 2.5 ppm spray 14 days after sowing, repeated 14 days later as needed. To bench germ: Make sure trays are watered before covering. Flat covering: first place one layer of reemay, then one layer of white plastic on top of that. Remove plastic after 8 to 10 days. Keep reemay wet. Remove reemay after another 2 to 3 days.
	(m) Level 3-4 **(t)** 68-70°F (20-21°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC **(p)** daminozide/ancymidol tank mix 2,000 ppm Spray	**(m)** Level 2-4 **(t)** 68-70°F (20-21°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 175 to 225 ppm N - 1.2 to 1.5 EC **(p)** daminozide 2,000 ppm Spray	**(m)** Level 2-4 **(t)** 68-70°F (20-21°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** 175 to 225 ppm N - 1.2 to 1.5 EC	Apply daminozide 2,000 ppm spray 10 days after sowing, when cotyledons are fully expanded. Repeat 7 to 10 days later as needed. Alternatively for more vigorous varieties, use uniconazole 2.5 ppm spray 14 days after sowing, repeated 14 days later as needed. To bench germ: Make sure trays are watered before covering. Flat covering: first place one layer of reemay, then one layer of white plastic on top of that. Remove plastic after 8 to 10 days. Keep reemay wet. Remove reemay after another 2 to 3 days.
	(m) Level 3-4 **(t)** 68-70°F (20-21°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC **(p)** daminozide 2,000 ppm Spray	**(m)** Level 2-4 **(t)** 68-70°F (20-21°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 175 to 225 ppm N - 1.2 to 1.5 EC **(p)** daminozide 2,000 ppm Spray	**(m)** Level 2-4 **(t)** 68-70°F (20-21°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** 175 to 225 ppm N - 1.2 to 1.5 EC	Apply daminozide 2,000 ppm spray 10 days after sowing, when cotyledons are fully expanded. Repeat 7 to 10 days later as needed. Alternatively for more vigorous varieties, use uniconazole 2.5 ppm spray 14 days after sowing, repeated 14 days later as needed. To bench germ: Make sure trays are watered before covering. Flat covering: first place one layer of reemay, then one layer of white plastic on top of that. Remove plastic after 8 to 10 days. Keep reemay wet. Remove reemay after another 2 to 3 days.

CLASS/SERIES	SEED FORM	RECOMMENDED PLUG SIZE	PLUG CROP WEEKS	SEEDS/ CELL	COVER SEED	DAYS TO GERMINATE	INITIAL MEDIA PH/EC	STAGE 1	
PEPPER (ORNAMENTAL) *Capsicum annuum* **Samba XL 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) *Capsicum annuum* **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) *Capsicum annuum* **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	
PEPPER (ORNAMENTAL) *Capsicum annuum* **Zamora 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	
SUNFLOWER *Helianthus annuus* **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 *Helianthus annuus* **Miss Sunshine F_1**	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 *Helianthus annuus* **SunBuzz F_1**	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	
TOMATO (EDIBLE POTTED) *Solanum lycopersicum* **Siam F_1**	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
	(m) Level 3-4 **(t)** 68-70°F (20-21°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC **(p)** daminozide 2,000 ppm Spray	**(m)** Level 2-4 **(t)** 68-70°F (20-21°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 175 to 225 ppm N - 1.2 to 1.5 EC **(p)** daminozide 2,000 ppm Spray	**(m)** Level 2-4 **(t)** 68-70°F (20-21°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** 175 to 225 ppm N - 1.2 to 1.5 EC	Apply daminozide 2,000 ppm spray 10 days after sowing, when cotyledons are fully expanded. Repeat 7 to 10 days later as needed. Alternatively for more vigorous varieties, use uniconazole 2.5 ppm spray 14 days after sowing, repeated 14 days later as needed. To bench germ: Make sure trays are watered before covering. Flat covering: first place one layer of reemay, then one layer of white plastic on top of that. Remove plastic after 8 to 10 days. Keep reemay wet. Remove reemay after another 2 to 3 days.
	(m) Level 3-4 **(t)** 68-70°F (20-21°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC **(p)** daminozide 2,000 ppm Spray	**(m)** Level 2-4 **(t)** 68-70°F (20-21°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 175 to 225 ppm N - 1.2 to 1.5 EC **(p)** daminozide 2,000 ppm Spray	**(m)** Level 2-4 **(t)** 68-70°F (20-21°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** 175 to 225 ppm N - 1.2 to 1.5 EC	Apply daminozide 2,000 ppm spray 10 days after sowing, when cotyledons are fully expanded. Repeat 7 to 10 days later as needed. Alternatively for more vigorous varieties, use uniconazole 2.5 ppm spray 14 days after sowing, repeated 14 days later as needed. To bench germ: Make sure trays are watered before covering. Flat covering: first place one layer of reemay, then one layer of white plastic on top of that. Remove plastic after 8 to 10 days. Keep reemay wet. Remove reemay after another 2 to 3 days.
	(m) Level 3-4 **(t)** 68-73°F (20-23°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 2-4 **(t)** 68-70°F (20-21°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC **(p)** uniconazole 25 ppm Spray	**(m)** Level 2-4 **(t)** 68-70°F (20-21°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	Performs best under high light and warm temperatures. Wicked is naturally compact and should not need PGRs. If necessary, uniconazole (Sumagic) at rate of 2.5 ppm can be applied at 2 weeks after sowing for height control. Repeat 2 weeks later if needed.
	(m) Level 3-4 **(t)** 68-70°F (20-21°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC **(p)** daminozide 2,000 ppm Spray	**(m)** Level 2-4 **(t)** 68-70°F (20-21°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 175 to 225 ppm N - 1.2 to 1.5 EC **(p)** daminozide 2,000 ppm Spray	**(m)** Level 2-4 **(t)** 68-70°F (20-21°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** 175 to 225 ppm N - 1.2 to 1.5 EC	Apply daminozide 2,000 ppm spray 10 days after sowing, when cotyledons are fully expanded. Repeat 7 to 10 days later as needed. Alternatively for more vigorous varieties, use uniconazole 2.5 ppm spray 14 days after sowing, repeated 14 days later as needed. To bench germ: Make sure trays are watered before covering. Flat covering: first place one layer of reemay, then one layer of white plastic on top of that. Remove plastic after 8 to 10 days. Keep reemay wet. Remove reemay after another 2 to 3 days.
	(m) Level 3-4 **(t)** 68-72°F (20-22°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 2 **(t)** 64-72°F (18-22°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 2 **(t)** 61-72°F (16-22°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	Can also be propagated by direct sowing when grown in smaller pots (4-in./10 cm, 4.5-in./11-cm, 5-in./13-cm).
	(m) Level 3-4 **(t)** 68-72°F (20-22°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 3 **(t)** 64-72°F (18-22°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 2 **(t)** 61-72°F (16-22°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	Can also be propagated by direct sowing when grown in smaller pots (4-in./10 cm, 4.5-in./11-cm, 5-in./13-cm).
	(m) Level 3-4 **(t)** 68-72°F (20-22°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 2 **(t)** 64-72°F (18-22°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 2 **(t)** 61-72°F (16-22°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	Can also be grown by direct sowing in smaller pots (quart, 5 in./13 cm).
	(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)** 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	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.

CLASS/SERIES	RECOMMENDED PLUG SIZE	GROWING ON TEMPERATURE (DAYS/NIGHTS)	TARGET MEDIA PH/EC	DAYLENGTH	
CAMPANULA *Campanula medium* **Campanella™ F_1 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 *Celosia cristata* **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 *Celosia spicata* **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 *Exacum affine* **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 *Exacum affine* **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 *Gerbera jamesonii* **ColorBloom™ F_1 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 *Gerbera jamesonii* **Mega Revolution™ F_1 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 *Gerbera jamesonii* **Revolution™ F_1 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 *Hypoestes phyllostachya* **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 *Eustoma grandiflorum* **Sapphire F_1 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 (EDIBLE POTTED) *Capsicum annuum* **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	Day Neutral	
PEPPER (EDIBLE POTTED) *Capsicum annuum* **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	Day Neutral	
PEPPER (EDIBLE POTTED) *Capsicum annuum* **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	Day Neutral	

FINISHING PROGRAMS	KEY TIPS
5"/6"/1 Gallon, 1 (ppp), 9-10 (weeks), Spring **5"/6"/1 Gallon**, 1 (ppp), 7-8 (weeks), Summer	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.
4"/4.5"/Quart, 1 (ppp), 5-6 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 4-5 (weeks), Summer **4"/4.5"/Quart**, 1 (ppp), 5-6 (weeks), Autumn	Don't pinch the plants. Recommended pot sizes: quart, 5 in./13 cm.
4"/4.5"/Quart, 1 (ppp), 6-8 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 5-7 (weeks), Summer	Keep medium constantly moist and do not allow to dry out. Does not need PGR. But if necessary, Alar/B-Nine, 2,000 to 2,500 ppm (2.4-3.0 g/l 85% formulation or 3.1 to 4.0 g/l 64% formulation) with 2 to 3 applications can be used. Do not treat when flower buds become visible.
4"/4.5"/Quart, 1 (ppp), 12 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 10 (weeks), Summer	Irrigation from below is recommended. Space when plants begin to touch. Grow on the "dry side" for better compact habit. Humidity must not exceed 80%, to reduce risk of fungal disease. PGR is recommended during the finish. Sprays must begin 3 weeks after potting (small pots, one week after potting). The subsequent treatments are dependent upon growing conditions and the desired size of the plant. Paclobutrazol and flurprimidol have been found to be effective on Exacum.
4"/4.5"/Quart, 1 (ppp), 12 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 10 (weeks), Summer	Irrigation from below is recommended. Space when plants begin to touch. Grow on the "dry side" for better compact habit. Humidity must not exceed 80%, to reduce risk of fungal disease. PGR is recommended during the finish. Sprays must begin 3 weeks after potting (small pots, one week after potting). The subsequent treatments are dependent upon growing conditions and the desired size of the plant. Paclobutrazol and flurprimidol have been found to be effective on Exacum.
4"/4.5"/Quart, 1 (ppp), 8-9 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 6-7 (weeks), Summer **4"/4.5"/Quart**, 1 (ppp), 8-9 (weeks), Autumn **4"/4.5"/Quart**, 1 (ppp), 9-10 (weeks), Winter	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.
5"/6"/1 Gallon, 1 (ppp), 10-11 (weeks), Spring, **PGR** daminozide 1,000-2,500 ppm Spray **5"/6"/1 Gallon**, 1 (ppp), 8-9 (weeks), Summer, **PGR** daminozide 1,000-2,500 ppm Spray **5"/6"/1 Gallon**, 1 (ppp), 10-11 (weeks), Autumn, **PGR** daminozide 1,000-2,500 ppm Spray **5"/6"/1 Gallon**, 1 (ppp), 11-12 (weeks), Autumn, **PGR** daminozide 1,000-2,500 ppm Spray	Use 6-in. (15 cm) pots or larger. Fill pots 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.
5"/6"/1 Gallon, 1 (ppp), 9-10 (weeks), Spring, **PGR** daminozide 1,000-2,500 ppm Spray **5"/6"/1 Gallon**, 1 (ppp), 7-8 (weeks), Summer, **PGR** daminozide 1,000-2,500 ppm Spray **5"/6"/1 Gallon**, 1 (ppp), 9-10 (weeks), Autumn, **PGR** daminozide 1,000-2,500 ppm Spray **5"/6"/1 Gallon**, 1 (ppp), 10-11 (weeks), Winter, **PGR** daminozide 1,000-2,500 ppm Spray	Use 4.5 to 5.5-in. (11 to 14-cm) pots for standard Revolution. Fill pots 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.
Cell Pack, 1 (ppp), 5-6 (weeks), Spring, **PGR** daminozide/chlormequat chloride tank mix 1,000/500 ppm Spray **4"/4.5"/Quart**, 3-4 (ppp), 5-6 (weeks), Spring, **PGR** daminozide/chlormequat chloride tank mix 1,000/500 ppm Spray	Too much light can cause leaves to curl. Grow under low light conditions (400 to 500 f.c./4,000 to 5,000 Lux).
4"/4.5"/Quart, 1 (ppp), 12-14 (weeks), Spring	Maintain pH above 6.5. Do not allow plugs to become rootbound. Lisianthus are tender seedlings and are recommended as a plug-purchased item.
5"/6"/1 Gallon, 1 (ppp), 14 (weeks), Spring **5"/6"/1 Gallon**, 1 (ppp), 13 (weeks), Summer	Plant plugs deeply. Water from below to keep surface of media dry. It is especially important to grow plants dry until flowering, allowing some wilt between watering. To optimize plant growth, space as soon as the plants touch. Keep the plants very dry from spacing to flowering to avoid stretch. Due to the weight of the fruit, we recommend staking plants to stabilize plants during shipment.
5"/6"/1 Gallon, 1 (ppp), 18 (weeks), Spring **5"/6"/1 Gallon**, 1 (ppp), 16 (weeks), Summer	Plant plugs deeply. Water from below to keep surface of media dry. It is especially important to grow plants dry until flowering, allowing some wilt between watering. To optimize plant growth, space as soon as the plants touch. Keep the plants very dry from spacing to flowering to avoid stretch. Due to the weight of the fruit, we recommend staking plants to stabilize plants during shipment.
5"/6"/1 Gallon, 1 (ppp), 17 (weeks), Spring **5"/6"/1 Gallon**, 1 (ppp), 15 (weeks), Summer	Plant plugs deeply. Water from below to keep surface of media dry. It is especially important to grow plants dry until flowering, allowing some wilt between watering. To optimize plant growth, space as soon as the plants touch. Keep the plants very dry from spacing to flowering to avoid stretch. Due to the weight of the fruit, we recommend staking plants to stabilize plants during shipment.

CLASS/SERIES	RECOMMENDED PLUG SIZE	GROWING ON TEMPERATURE (DAYS/NIGHTS)	TARGET MEDIA PH/EC	DAYLENGTH	
PEPPER (EDIBLE POTTED) *Capsicum annuum* **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	Day Neutral	
PEPPER (EDIBLE POTTED) *Capsicum annuum* **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	Day Neutral	
PEPPER (EDIBLE POTTED) *Capsicum annuum* **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	Day Neutral	
PEPPER (EDIBLE POTTED) *Capsicum annuum* **Hot Lemon**	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 (EDIBLE POTTED) *Capsicum annuum* **Hot Tomato**	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 (EDIBLE POTTED) *Capsicum annuum* **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	Day Neutral	
PEPPER (EDIBLE POTTED) *Capsicum annuum* **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	Day Neutral	
PEPPER (EDIBLE POTTED) *Capsicum annuum* **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	Day Neutral	
PEPPER (EDIBLE POTTED) *Capsicum annuum* **Yellow Tomato**	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) *Capsicum annuum* **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) *Capsicum annuum* **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) *Capsicum annuum* **Chilly Chili F_1**	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) *Capsicum annuum* **Coba**	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) *Capsicum annuum* **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) *Capsicum annuum* **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) *Capsicum annuum* **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	

FINISHING PROGRAMS	KEY TIPS
5"/6"/1 Gallon, 1 (ppp), 16 (weeks), Spring **5"/6"/1 Gallon**, 1 (ppp), 14 (weeks), Summer	Plant plugs deeply. Water from below to keep surface of media dry. It is especially important to grow plants dry until flowering, allowing some wilt between watering. To optimize plant growth, space as soon as the plants touch. Keep the plants very dry from spacing to flowering to avoid stretch. Due to the weight of the fruit, we recommend staking plants to stabilize plants during shipment.
5"/6"/1 Gallon, 1 (ppp), 16 (weeks), Spring **5"/6"/1 Gallon**, 1 (ppp), 14 (weeks), Summer	Plant plugs deeply. Water from below to keep surface of media dry. It is especially important to grow plants dry until flowering, allowing some wilt between watering. To optimize plant growth, space as soon as the plants touch. Keep the plants very dry from spacing to flowering to avoid stretch. Due to the weight of the fruit, we recommend staking plants to stabilize plants during shipment.
5"/6"/1 Gallon, 1 (ppp), 16 (weeks), Spring **5"/6"/1 Gallon**, 1 (ppp), 14 (weeks), Summer	Plant plugs deeply. Water from below to keep surface of media dry. It is especially important to grow plants dry until flowering, allowing some wilt between watering. To optimize plant growth, space as soon as the plants touch. Keep the plants very dry from spacing to flowering to avoid stretch. Due to the weight of the fruit, we recommend staking plants to stabilize plants during shipment.
5"/6"/1 Gallon, 1 (ppp), 17 (weeks), Spring **5"/6"/1 Gallon**, 1 (ppp), 15 (weeks), Summer	Plant plugs deeply. Water from below to keep surface of media dry. It is especially important to grow plants dry until flowering, allowing some wilt between watering. To optimize plant growth, space as soon as the plants touch. Keep the plants very dry from spacing to flowering to avoid stretch. Due to the weight of the fruit, we recommend staking plants to stabilize plants during shipment.
5"/6"/1 Gallon, 1 (ppp), 17 (weeks), Spring **5"/6"/1 Gallon**, 1 (ppp), 15 (weeks), Summer	Plant plugs deeply. Water from below to keep surface of media dry. It is especially important to grow plants dry until flowering, allowing some wilt between watering. To optimize plant growth, space as soon as the plants touch. Keep the plants very dry from spacing to flowering to avoid stretch. Due to the weight of the fruit, we recommend staking plants to stabilize plants during shipment.
5"/6"/1 Gallon, 1 (ppp), 16 (weeks), Spring **5"/6"/1 Gallon**, 1 (ppp), 14 (weeks), Summer	Plant plugs deeply. Water from below to keep surface of media dry. It is especially important to grow plants dry until flowering, allowing some wilt between watering. To optimize plant growth, space as soon as the plants touch. Keep the plants very dry from spacing to flowering to avoid stretch. Due to the weight of the fruit, we recommend staking plants to stabilize plants during shipment.
5"/6"/1 Gallon, 1 (ppp), 16 (weeks), Spring **5"/6"/1 Gallon**, 1 (ppp), 14 (weeks), Summer	Plant plugs deeply. Water from below to keep surface of media dry. It is especially important to grow plants dry until flowering, allowing some wilt between watering. To optimize plant growth, space as soon as the plants touch. Keep the plants very dry from spacing to flowering to avoid stretch. Due to the weight of the fruit, we recommend staking plants to stabilize plants during shipment.
5"/6"/1 Gallon, 1 (ppp), 17 (weeks), Spring **5"/6"/1 Gallon**, 1 (ppp), 15 (weeks), Summer	Plant plugs deeply. Water from below to keep surface of media dry. It is especially important to grow plants dry until flowering, allowing some wilt between watering. To optimize plant growth, space as soon as the plants touch. Keep the plants very dry from spacing to flowering to avoid stretch.
5"/6"/1 Gallon, 1 (ppp), 17 (weeks), Spring **5"/6"/1 Gallon**, 1 (ppp), 15 (weeks), Summer	Plant plugs deeply. Water from below to keep surface of media dry. It is especially important to grow plants dry until flowering, allowing some wilt between watering. To optimize plant growth, space as soon as the plants touch. Keep the plants very dry from spacing to flowering to avoid stretch. Due to the weight of the fruit, we recommend staking plants to stabilize plants during shipment.
4"/4.5"/Quart, 1 (ppp), 12-13 (weeks), Autumn, **PGR** chlormequat chloride 1,000 ppm Spray	Plant plugs deeply. Water from below to keep surface of media dry. Grow plants dry until flowering, allowing slight wilt between watering. This will reduce stretch. PGR has negative side-effects on fruit-setting. A minimum of 2,000 Lux is recommended when supplemental lighting is being used.
4"/4.5"/Quart, 1 (ppp), 7-13 (weeks), Summer **5"/6"/1 Gallon**, 1-3 (ppp), 7-13 (weeks), Summer **4"/4.5"/Quart**, 1 (ppp), 7-13 (weeks), Autumn **5"/6"/1 Gallon**, 1-3 (ppp), 7-13 (weeks), Autumn	Performs best under high light and warm temperatures. Add 4 to 5 weeks for Spring production crop times.
4"/4.5"/Quart, 1 (ppp), 7-13 (weeks), Summer **5"/6"/1 Gallon**, 1-3 (ppp), 7-13 (weeks), Summer **4"/4.5"/Quart**, 1 (ppp), 7-13 (weeks), Autumn **5"/6"/1 Gallon**, 1-3 (ppp), 7-13 (weeks), Autumn	Performs best under high light and warm temperatures. Add 4 to 5 weeks for Spring production crop times. Growing plants on the dry side, allowing plants to wilt slightly prior to watering, helps provide height control.
4"/4.5"/Quart, 1 (ppp), 12-13 (weeks), Autumn, **PGR** chlormequat chloride 1,000 ppm Spray	Plant plugs deeply. Water from below to keep surface of media dry. Grow plants dry until flowering, allowing slight wilt between watering. This will reduce stretch. PGR has negative side-effects on fruit-setting. A minimum of 2,000 Lux is recommended when supplemental lighting is being used.
4"/4.5"/Quart, 1 (ppp), 11-12 (weeks), Autumn, **PGR** chlormequat chloride 1,000 ppm Spray	Plant plugs deeply. Water from below to keep surface of media dry. Grow plants dry until flowering, allowing slight wilt between watering. This will reduce stretch. PGR has negative side-effects on fruit-setting. A minimum of 2,000 Lux is recommended when supplemental lighting is being used.
4"/4.5"/Quart, 1 (ppp), 13-14 (weeks), Autumn, **PGR** chlormequat chloride 1,000 ppm Spray	Plant plugs deeply. Water from below to keep surface of media dry. Grow plants dry until flowering, allowing slight wilt between watering. This will reduce stretch. PGR has negative side-effects on fruit-setting. A minimum of 2,000 Lux is recommended when supplemental lighting is being used.
4"/4.5"/Quart, 1 (ppp), 7-13 (weeks), Summer **5"/6"/1 Gallon**, 1-3 (ppp), 7-13 (weeks), Summer **4"/4.5"/Quart**, 1 (ppp), 7-13 (weeks), Autumn **5"/6"/1 Gallon**, 1-3 (ppp), 7-13 (weeks), Autumn	Performs best under high light and warm temperatures. Add 4 to 5 weeks for Spring production crop times.

CLASS/SERIES	RECOMMENDED PLUG SIZE	GROWING ON TEMPERATURE (DAYS/NIGHTS)	TARGET MEDIA PH/EC	DAYLENGTH	
PEPPER (ORNAMENTAL) *Capsicum annuum* **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) *Capsicum annuum* **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) *Capsicum annuum* **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) *Capsicum annuum* **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) *Capsicum annuum* **Salsa 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) *Capsicum annuum* **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) *Capsicum annuum* **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) *Capsicum annuum* **Samba XL 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) *Capsicum annuum* **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) *Capsicum annuum* **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	
PEPPER (ORNAMENTAL) *Capsicum annuum* **Zamora 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	
SUNFLOWER *Helianthus annuus* **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 *Helianthus annuus* **Miss Sunshine F_1**	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 *Helianthus annuus* **SunBuzz F_1**	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.	
TOMATO (EDIBLE POTTED) *Solanum lycopersicum* **Siam F_1**	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		

FINISHING PROGRAMS	KEY TIPS
4"/4.5"/Quart, 1 (ppp), 11-12 (weeks), Autumn, **PGR** chlormequat chloride 1,000 ppm Spray	Plant plugs deeply. Water from below to keep surface of media dry. Grow plants dry until flowering, allowing slight wilt between watering. This will reduce stretch. PGR has negative side-effects on fruit-setting. A minimum of 2,000 Lux is recommended when supplemental lighting is being used.
5"/6"/1 Gallon, 1-3 (ppp), 7-12 (weeks), Summer **5"/6"/1 Gallon**, 1-3 (ppp), 7-12 (weeks), Autumn	Performs best under high light and warm temperatures. Add 4 to 5 weeks for Spring production crop times.
4"/4.5"/Quart, 1 (ppp), 7-13 (weeks), Summer **5"/6"/1 Gallon**, 1-3 (ppp), 7-13 (weeks), Summer **4"/4.5"/Quart**, 1 (ppp), 7-13 (weeks), Autumn **5"/6"/1 Gallon**, 1-3 (ppp), 7-13 (weeks), Autumn	Performs best under high light and warm temperatures. Add 4 to 5 weeks for Spring production crop times.
4"/4.5"/Quart, 1 (ppp), 7-10 (weeks), Summer **5"/6"/1 Gallon**, 1-3 (ppp), 7-11 (weeks), Summer **4"/4.5"/Quart**, 1 (ppp), 7-10 (weeks), Autumn **5"/6"/1 Gallon**, 1-3 (ppp), 7-11 (weeks), Autumn	Performs best under high light and warm temperatures. Add 4 to 5 weeks for Spring production crop times.
4"/4.5"/Quart, 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, 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, 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, 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, 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, 1 (ppp), 7-13 (weeks), Summer **5"/6"/1 Gallon**, 1-3 (ppp), 7-13 (weeks), Summer **4"/4.5"/Quart**, 1 (ppp), 7-13 (weeks), Autumn **5"/6"/1 Gallon**, 1-3 (ppp), 7-13 (weeks), Autumn	Performs best under high light and warm temperatures. Add 4 to 5 weeks for Spring production crop times.
4"/4.5"/Quart, 1 (ppp), 12-13 (weeks), Autumn, **PGR** chlormequat chloride 1,000 ppm Spray	Plant plugs deeply. Water from below to keep surface of media dry. Grow plants dry until flowering, allowing slight wilt between watering. This will reduce stretch. PGR has negative side-effects on fruit-setting. A minimum of 2,000 Lux is recommended when supplemental lighting is being used.
5"/6"/1 Gallon, 1 (ppp), 8-9 (weeks), Spring, **PGR** daminozide 3,500-5,000 ppm Spray **5"/6"/1 Gallon**, 1 (ppp), 7-8 (weeks), Summer, **PGR** daminozide 3,500-5,000 ppm Spray	Plants grow shorter under short days. Plants will grow taller under longer days when no PGRs are applied.
5"/6"/1 Gallon, 1-3 (ppp), 7-8 (weeks), Spring, **PGR** daminozide 1,250-2,500 ppm Spray **5"/6"/1 Gallon**, 1-3 (ppp), 6-7 (weeks), Summer, **PGR** daminozide 1,250-2,500 ppm Spray	Plants grow shorter under short days. Plants will grow taller under longer days when no PGRs are applied. We recommend 1 ppp in 5-in. (13-cm) pots and 1 to 3 ppp in gallon pots.
5"/6"/1 Gallon, 1-3 (ppp), 7-8 (weeks), Spring, **PGR** daminozide 3,500-5,000 ppm Spray **5"/6"/1 Gallon**, 1-3 (ppp), 6-7 (weeks), Summer, **PGR** daminozide 3,500-5,000 ppm Spray	Plants will stay shorter under short day conditions and grow taller under long day conditions. Take this in consideration when using PGRs. 1 plant per 5-in./13-cm pot and 3 plants per gallon pot are recommended.
5"/6"/1 Gallon, 1 (ppp), 11-12 (weeks), Spring **5"/6"/1 Gallon**, 1 (ppp), 10-11 (weeks), Summer	Plant plugs deeply. Water from below to keep surface of media dry. It is especially important to grow plants dry until flowering. To optimize plant growth, space as soon as the plants touch. Keep the plants very dry from spacing to flowering to avoid stretch. Due to the weight of the fruit, we recommend staking plants to stabilize plants during shipment.

SEED PRODUCT INFORMATION GUIDE

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PERENNIALS PROPAGATION GUIDE P. 84 / FINISHING GUIDE P. 100 / FORCING GUIDE P. 118

POT PLANTS PROPAGATION GUIDE P. 122 / FINISHING GUIDE P. 134

HANDPICKED VEGETABLES & HERBS PROPAGATION GUIDE P. 162 / FINISHING GUIDE P. 176

PanAmerican Seed®

CUT FLOWERS

CLASS/SERIES	SEED FORM	RECOMMENDED PLUG SIZE	PLUG CROP WEEKS	SEEDS/ CELL	COVER SEED	DAYS TO GERMINATE	INITIAL MEDIA PH/EC	STAGE 1	
ANEMONE *Anemone coronaria* **Mona Lisa® F₁ Series**	RAW	288	7-8	1	Yes	10-14	5.8-6.2 pH 0.75 mmhos/cm	**(m)** Level 4 **(t)** 65-70°F (18-21°C)	
ASCLEPIAS *Asclepias curassavica* **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)** Dark **(f)** Less than 100 ppm N - Less than 0.7 EC	
CAMPANULA *Campanula medium* **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 *Carthamus tinctorius* **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 *Celosia cristata* **Bombay 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 *Celosia spicata* **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 *Celosia cristata* **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	

	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)** 60-65°F (16-18°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 3 **(t)** 60°F (16°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	Because anemone is slow-growing, maintain appropriate conditions such as moisture, temperature, fertilization and insect disease control to produce a healthy plug.
	(m) Level 3 **(t)** 65-68°F (18-20°C) **(l)** 2,000-2,500 f.c. (21,500-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 2-3 **(t)** 65-68°F (18-20°C) **(l)** 3,000-4,000 f.c. (32,300-43,100 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 2 **(t)** 60-65°F (16-18°C) **(l)** 4,000-5,000 f.c. (43,100-53,800 Lux) **(f)** 175 to 225 ppm N - 1.2 to 1.5 EC	Germinate in the dark!
	(m) Level 3-4 **(t)** 68-72°F (20-22°C) **(l)** 370-2,500 f.c. (4,000-26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 3-4 **(t)** 60-65°F (16-18°C) **(l)** 370-2,500 f.c. (4,000-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 3-4 **(t)** 60-65°F (16-18°C) **(l)** 370-5,000 f.c. (4,000-53,800 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	Qualitative long-day plant. To ensure sufficient vegetative growth and stem length, provide short-day conditions in plug stage (<11 hours) from approximately 1.5 to 2 weeks after sowing. After transplant, keep plants in long days (>14 hours) when planted in Spring or Summer. When producing for Winter flowering, provide long days (> 14 hours) at 4 to 5 weeks after transplanting. Mum lighting from 10 p.m. to 2 a.m. can be used. Maintain a medium moisture level. To reach sufficient stem length, campanula medium needs adequate moisture and fertilization. Dry growing conditions will cause early flowering and reduced stem length. However, over-watering will cause weaker stems and root systems, which will cause plants to fall over.
				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 Bombay to reach the appropriate stem length lies between 12 to 13 hours. Celosia makes a taproot and is sensitive to root damage, which will result in early bud formation, deformed flowers and less uniformity. Therefore, plant before the plugs get rootbound. Maintain a constantly moist media, especially for the first 2 weeks after transplanting, to prevent premature flowering.
	(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.

CLASS/SERIES	SEED FORM	RECOMMENDED PLUG SIZE	PLUG CROP WEEKS	SEEDS/ CELL	COVER SEED	DAYS TO GERMINATE	INITIAL MEDIA PH/EC	STAGE 1	
CELOSIA *Celosia cristata* **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 *Celosia plumosa* **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 *Delphinium x belladonna* **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	
DELPHINIUM *Delphinium elatum* **Guardian F_1 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 *Dianthus barbatus interspecific* **Amazon™ F_1 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 *Dianthus barbatus* **Sweet™ F_1 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 *Gomphrena haageana* **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 *Panicum capillare* **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 *Limonium sinuatum* **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 *Eustoma grandiflorum* **ABC™ F_1 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	

	STAGE 2	STAGE 3	STAGE 4	KEY TIPS
	(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 $mol \cdot m^{-2} \cdot d^{-1}$, 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 $mol \cdot m^{-2} \cdot d^{-1}$, 4,000-5,000 f.c. (43,100-53,800 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	
	(m) Level 3 **(t)** 65-68°F (18-20°C) **(l)** 2,000-2,500 f.c. (21,500-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 2 **(t)** 60-65°F (16-18°C) **(l)** 2,000-2,500 f.c. (21,500-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 2 **(t)** 60-65°F (16-18°C) **(l)** 4,000-5,000 f.c. (43,100-53,800 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	Autumn: greenhouse 13 weeks, field 16 weeks. Spring: greenhouse 11 weeks, field 13 weeks. Treat cut stems with an ethylene-inhibiting agent. In temperate areas such as coastal California, plugs are generally transplanted into the field August through October, and February to early May. Autumn transplants will flower the following Spring (February onward); Spring transplants flower late Spring.
	(m) Level 3-4 **(t)** 65-70°F (18-21°C) **(l)** 5-8 $mol \cdot m^{-2} \cdot d^{-1}$ **(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 $mol \cdot m^{-2} \cdot d^{-1}$ **(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 $mol \cdot m^{-2} \cdot d^{-1}$ **(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 $mol \cdot m^{-2} \cdot d^{-1}$ **(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 $mol \cdot m^{-2} \cdot d^{-1}$ **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 3 **(t)** 55-60°F (13-16°C) **(l)** 10 $mol \cdot m^{-2} \cdot d^{-1}$ **(f)** 175 to 225 ppm N - 1.2 to 1.5 EC	
	(m) Level 3-4 **(t)** 65-70°F (18-21°C) **(l)** 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.

CLASS/SERIES	SEED FORM	RECOMMENDED PLUG SIZE	PLUG CROP WEEKS	SEEDS/ CELL	COVER SEED	DAYS TO GERMINATE	INITIAL MEDIA PH/EC	STAGE 1	
LISIANTHUS *Eustoma grandiflorum* **Can Can F₁ Series**	PEL	406	8-10	1	Light cover	8-10	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 *Eustoma grandiflorum* **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	
MATRICARIA *Tanacetum parthenium* **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 *Matthiola incana* **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 *Matthiola incana* **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 *Matthiola incana* **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 *Matthiola incana* **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 *Matthiola incana* **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 *Matthiola incana* **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	

	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)** 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)** 64-68°F (18-20°C) **(l)** 1,500-2,500 f.c. (16,100-26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 2-3 **(t)** 64-68°F (18-20°C) **(l)** 1,500-2,500 f.c. (16,100-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 2-3 **(t)** 60-65°F (16-18°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	
	(m) Level 3-4 **(t)** 59-64°F (15-18°C) **(l)** 1,500-2,500 f.c. (16,100-26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 2-3 **(t)** 59-64°F (15-18°C) **(l)** 1,500-2,500 f.c. (16,100-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 1-2 **(t)** 59-64°F (15-18°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	Double-flowering matthiola may be selected from single-flowering types by exposing seedlings with fully expanded cotyledons to 41°F (5°C) for approximately 4 to 7 days. At this point, seedlings of double-flowering plants will appear a pale green, while singles remain dark green. After removal from cold treatment, double-flowering seedlings will appear yellow and chlorotic within 1 to 2 days, while single-flowering seedlings remain robust and green. This cold treatment may only be done once to selectable matthiola plugs.
	(m) Level 3-4 **(t)** 60-65°F (16-18°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 3-4 **(t)** 60-65°F (16-18°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 3 **(t)** 55-60°F (13-16°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	In field grown-type stocks, typically the seed is directly sown into the field, so it's important to maintain the optimal field conditions, especially the moisture conditions, for the seed to germinate and establish.
	(m) Level 3-4 **(t)** 59-64°F (15-18°C) **(l)** 1,500-2,500 f.c. (16,100-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 2-3 **(t)** 59-64°F (15-18°C) **(l)** 1,500-2,500 f.c. (16,100-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 1-2 **(t)** 59-64°F (15-18°C) **(l)** 1,500-2,500 f.c. (16,100-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	Double-flowering matthiola may be selected from single-flowering types by exposing seedlings with fully expanded cotyledons to 41°F (5°C) for approximately 4 to 7 days. At this point, seedlings of double-flowering plants will appear a pale green, while singles remain dark green. After removal from cold treatment, double-flowering seedlings will appear yellow and chlorotic within 1 to 2 days, while single-flowering seedlings remain robust and green. This cold treatment may only be done once to selectable matthiola plugs.
	(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	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.
	(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	Katz is not recommended for seedling selection of double-flowering matthiola. Incorporate a preventative fungicide program for Downy Mildew control.
	(m) Level 3-4 **(t)** 59-64°F (15-18°C) **(l)** 1,500-2,500 f.c. (16,100-26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 2-3 **(t)** 59-64°F (15-18°C) **(l)** 1,500-2,500 f.c. (16,100-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 1-2 **(t)** 59-64°F (15-18°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	Double-flowering matthiola may be selected from single-flowering types by exposing seedlings with fully expanded cotyledons to 41°F (5°C) for approximately 4 to 7 days. At this point, seedlings of double-flowering plants will appear a pale green, while singles remain dark green. After removal from cold treatment, double-flowering seedlings will appear yellow and chlorotic within 1 to 2 days, while single-flowering seedlings remain robust and green. This cold treatment may only be done once to selectable matthiola plugs.

CLASS/SERIES	SEED FORM	RECOMMENDED PLUG SIZE	PLUG CROP WEEKS	SEEDS/ CELL	COVER SEED	DAYS TO GERMINATE	INITIAL MEDIA PH/EC	STAGE 1	
MATTHIOLA *Matthiola incana* **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	
MATTHIOLA *Matthiola incana* **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 *Antirrhinum majus* **Cool F_1 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 *Antirrhinum majus* **Early Potomac™ F_1 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 *Antirrhinum majus* **Maryland F_1 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 *Antirrhinum majus* **Monaco F_1 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 *Antirrhinum majus* **Potomac™ F_1 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 *Antirrhinum majus* **Purple Twist F_1**	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)	

	STAGE 2	STAGE 3	STAGE 4	KEY TIPS
	(m) Level 3-4 **(t)** 59-64°F (15-18°C) **(l)** 1,500-2,500 f.c. (16,100-26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 2-3 **(t)** 59-64°F (15-18°C) **(l)** 1,500-2,500 f.c. (16,100-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 1-2 **(t)** 59-64°F (15-18°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	Double-flowering matthiola may be selected from single-flowering types by exposing seedlings with fully expanded cotyledons to 41°F (5°C) for approximately 4 to 7 days. At this point, seedlings of double-flowering plants will appear a pale green, while singles remain dark green. After removal from cold treatment, double-flowering seedlings will appear yellow and chlorotic within 1 to 2 days, while single-flowering seedlings remain robust and green. This cold treatment may only be done once to selectable matthiola plugs.
	(m) Level 3-4 **(t)** 59-64°F (15-18°C) **(l)** 1,500-2,500 f.c. (16,100-26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 2-3 **(t)** 59-64°F (15-18°C) **(l)** 1,500-2,500 f.c. (16,100-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 1-2 **(t)** 59-64°F (15-18°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	Double-flowering matthiola may be selected from single-flowering types by exposing seedlings with fully expanded cotyledons to 41°F (5°C) for approximately 4 to 7 days. At this point, seedlings of double-flowering plants will appear a pale green, while singles remain dark green. After removal from cold treatment, double-flowering seedlings will appear yellow and chlorotic within 1 to 2 days, while single-flowering seedlings remain robust and green. This cold treatment may only be done once to selectable matthiola plugs.
	(m) Level 3-4 **(t)** 60-65°F (16-18°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 3-4 **(t)** 60-65°F (16-18°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 3 **(t)** 60°F (16°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	Avoid high media pH (>6.5), as this can cause iron and boron deficiency. Tip abortion of the seedlings can be caused by boron deficiency, high EC and excessive moisture accumulation on the growing tip, followed by poor air circulation. Incorporate a preventative fungicide program for Downy Mildew control.
	(m) Level 3-4 **(t)** 60-65°F (16-18°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 3-4 **(t)** 60-65°F (16-18°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 3 **(t)** 60°F (16°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	Avoid high media pH (>6.5), as this can cause iron and boron deficiency. Tip abortion of the seedlings can be caused by boron deficiency, high EC and excessive moisture accumulation on the growing tip, followed by poor air circulation. Incorporate a preventative fungicide program for Downy Mildew control.
	(m) Level 3-4 **(t)** 60-65°F (16-18°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 3-4 **(t)** 60-65°F (16-18°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 3 **(t)** 60°F (16°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	Avoid high media pH (>6.5), as this can cause iron and boron deficiency. Tip abortion of the seedlings can be caused by boron deficiency, high EC and excessive moisture accumulation on the growing tip, followed by poor air circulation. Incorporate a preventative fungicide program for Downy Mildew control.
	(m) Level 3-4 **(t)** 60-65°F (16-18°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 3-4 **(t)** 60-65°F (16-18°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 3 **(t)** 60°F (16°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	Avoid high media pH (>6.5), as this can cause iron and boron deficiency. Tip abortion of the seedlings can be caused by boron deficiency, high EC and excessive moisture accumulation on the growing tip, followed by poor air circulation. Incorporate a preventative fungicide program for Downy Mildew control.
	(m) Level 3-4 **(t)** 60-65°F (16-18°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 3-4 **(t)** 60-65°F (16-18°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 3 **(t)** 60°F (16°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	Avoid high media pH (>6.5), as this can cause iron and boron deficiency. Tip abortion of the seedlings can be caused by boron deficiency, high EC and excessive moisture accumulation on the growing tip, followed by poor air circulation. Incorporate a preventative fungicide program for Downy Mildew control.
	(m) Level 3-4 **(t)** 60-65°F (16-18°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 3-4 **(t)** 60-65°F (16-18°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 3 **(t)** 60°F (16°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	Avoid high media pH (>6.5), as this can cause iron and boron deficiency. Tip abortion of the seedlings can be caused by boron deficiency, high EC and excessive moisture accumulation on the growing tip, followed by poor air circulation. Incorporate a preventative fungicide program for Downy Mildew control.

CLASS/SERIES	SEED FORM	RECOMMENDED PLUG SIZE	PLUG CROP WEEKS	SEEDS/ CELL	COVER SEED	DAYS TO GERMINATE	INITIAL MEDIA PH/EC	STAGE 1	
SNAPDRAGON *Antirrhinum majus* **Red Delilah F$_1$**	RAW	406	4-5	1	Light cover	4-5	5.5-6.0 pH 0.75 mmhos/cm	**(m)** Level 4 **(t)** 65-70°F (18-21°C) **(l)** Optional	
SNAPDRAGON *Antirrhinum majus* **Rocket F$_1$ Series**	RAW	406	5-6	1	Light cover	4-8	5.5-6.0 pH 0.75 mmhos/cm	**(m)** Level 4 **(t)** 65-68°F (18-20°C)	
SUNFLOWER *Helianthus annuus* **Jua F$_1$ Series**	TRT	288 Direct sow	2-2.5	1	Yes	2-3	5.8-6.2 pH 0.75 mmhos/cm	**(m)** Level 4 **(t)** 68-75°F (20-24°C)	
TRACHELIUM *Trachelium caeruleum* **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
	(m) Level 3-4 **(t)** 60-65°F (16-18°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 3-4 **(t)** 60-65°F (16-18°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 3 **(t)** 60°F (16°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	Avoid high media pH (>6.5), as this can cause iron and boron deficiency. Tip abortion of the seedlings can be caused by boron deficiency, high EC and excessive moisture accumulation on the growing tip, followed by poor air circulation. Incorporate a preventative fungicide program for Downy Mildew control.
	(m) Level 3-4 **(l)** 2,500 f.c. (26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 3-4 **(l)** 2,500 f.c. (26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 3 **(l)** 5,000 f.c. (53,800 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	Bronze, Golden, Pink, Red and Rose Shades will germinate best with light. Avoid high media pH (>6.5), as this can cause iron and boron deficiency. Tip abortion of the seedlings can be caused by Boron deficiency, high EC and excessive moisture accumulation on the growing tip, followed by poor air circulation. Incorporate a preventative fungicide program for Downy Mildew control.
	(m) Level 3-4 **(t)** 65-70°F (18-21°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 3-4 **(t)** 60-65°F (16-18°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 3 **(t)** 55-60°F (13-16°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	Can also be direct sown in the field and will take about 3 to 5 days to germinate.
	(m) Level 3-4 **(t)** 62-70°F (17-21°C) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 2-3 **(t)** 62-70°F (17-21°C) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 2-3 **(t)** 62-70°F (17-21°C) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	Trachelium is very sensitive to high salts, particularly high ammonium, during germination. Trachelium needs 16-hour daylengths for faster flowering. Should be transplanted Autumn to early Winter for flowering in mid-Winter to early Spring.

CLASS/SERIES	DAYLENGTH	RECOMMENDED PLUG SIZE	FINISHING PROGRAMS
ANEMONE *Anemone coronaria* **Mona Lisa® F_1 Series**	Day Neutral	288	Spring: 2-4 plants/ft² (22-43 plants/m²), 12-14 weeks
ASCLEPIAS *Asclepias curassavica* **Silky Series**	Day Neutral	288	**Greenhouse:** Summer: 2-3 plants/ft² (22-32 plants/m²), 11-13 weeks
CAMPANULA *Campanula medium* **Campana F_1 Series**	Obligate Long Day Plants need long day (> 14 hour daylength) for flower initiation.	288	6-8 plants/ft² (65-86 plants/m²), 10-14 weeks
CARTHAMUS *Carthamus tinctorius* **Grenade Series**		Direct sow	**Field grown:** Summer: 14 weeks
CELOSIA *Celosia cristata* **Bombay Series**	Facultative Short Day The optimum daylength for Bombay to reach the appropriate stem length lies between 12 to 13 hours.	288	6-8 plants/ft² (65-86 plants/m²), 10-14 weeks
CELOSIA *Celosia spicata* **Celway™ Series**	Facultative Short Day Quantitative short-day plant. Flowers will initiate under short days. The optimum daylength for Celway to reach the appropriate stem length lies between 12 to 13 hours.	288	6-8 plants/ft² (65-86 plants/m²), 12-16 weeks
CELOSIA *Celosia cristata* **Neo™ Series**	Facultative Short Day Quantitative short-day plant. Flowers will initiate faster under short days.	288	6-8 plants/ft² (65-86 plants/m²), 8-12 weeks
CELOSIA *Celosia cristata* **Spring Green**	Facultative Short Day The optimum daylength to reach the appropriate stem length lies between 12 to 13 hours.	288	6-8 plants/ft² (65-86 plants/m²), 10-14 weeks
CELOSIA *Celosia plumosa* **Sunday™ Series**	Facultative Short Day Will initiate flowers faster in short days. The optimum daylength for Celosia Sunday to reach the appropriate stem length is between 12 to 13 hours. Under short-day conditions provide daylength extension up to 13 hours to allow plants to elongate and to prevent early flowering. When daylength is over 13 hours, short-day treatments can be applied. Provide a dark period for a minimum of 12 hours for 5 to 6 weeks. Do not start short days until one week after planting.	288	6-8 plants/ft² (65-86 plants/m²), 12-16 weeks
DELPHINIUM *Delphinium x belladonna* **Blue Donna**	Facultative Long Day	288	

GROWING ON TEMPERATURE (DAYS/NIGHTS)	STEM LENGTH	KEY TIPS
Before flower development: **(day)** 60-65°F (16-18°C) **(night)** 55°F (13°C)	18 in. (46 cm)	Optimal stem length can be achieved with cool growing conditions (53 to 58°F/12 to 14°C) and long-day conditions. NOTE: To produce in 4-in. (10-cm) pots for pot crop or bedding plant programs, PGR treatments are needed. Apply Bonzi as a drench at a 2 ppm concentration about 5 to 6 weeks after transplant into a 4-in. (10-cm) pot. One application of Bonzi should be enough. Drench rates up to 4 ppm of Bonzi can be used with good results. Make sure that the crop has a well-developed root mass before the drench application; the roots should fill the pot.
Summer: **(day)** 70-75°F (21-24°C) **(night)** 60-65°F (16-18°C)	22-28 in. (56-71 cm)	Asclepias curassavica has difficulty absorbing water right after harvest. The right harvest time and method reduce fluid loss of the stems and stimulate water absorption. Harvest when unbel is two-thirds open, very early or very late in the day. DO NOT sear the stems in hot water as you would do with other asclepias. Post Harvest Treatment: 2 ml/l Florissant 100 + Florissant 700 1 ml/l for 4 hours immediately after harvest, followed by 10 ml/l Florissant 600 after processing the flowers. Send to the auction in this solution. Avoid dry transport. Storage and transport is best between 41 to 45°F (5 to 7°C).
(day) 60-70°F (16-21°C) **(night)** 54-59°F (12-15°C)	30-34 in. (76-86 cm)	To ensure sufficient vegetative growth and stem length, provide short-day conditions in plug stage (<11 hours) from approximately 1.5 to 2 weeks after sowing. After transplant, keep plants in long days (>14 hours) when planted in Spring or Summer. When producing for Winter flowering, provide long days (>14 hours) at 4 to 5 weeks after transplanting. Mum lighting from 10 p.m. to 2 a.m. can be used. Maintain a medium moisture level. To reach sufficient stem length, campanula medium needs adequate moisture and fertilization. Dry growing conditions will cause early flowering and reduced stem length. However, over-watering will cause weaker stems and root systems, which will cause plants to fall over.
(day) 70-75°F (21-24°C) **(night)** 50-55°F (10-13°C)	32-40 in. (81-102 cm)	From Spring sowing in Northern Europe, harvest July through September.
(day) 61-60°F (16°C) **(night)** 59°F (15°C) **Before flower development:** **(day)** 65-75°F (18-24°C) **(night)** 63-65°F (17-18°C)	28-40 in. (71-102 cm)	Celosia makes a taproot and is sensitive to root damage, which will result in early bud formation, deformed flowers and less uniformity. Therefore, plant before the plugs get rootbound. Maintain a constantly moist media, especially for the first 2 weeks after transplanting, to prevent premature flowering.
(day) 65-75°F (18-24°C) **(night)** 63-65°F (17-18°C)	40-48 in. (102-122 cm)	Celosia makes a taproot and is sensitive to root damage, which will result in early bud formation, deformed flowers and less uniformity. Therefore, plant before the plugs get rootbound. Maintain a constantly moist media, especially for the first 2 weeks after transplanting, to prevent premature flowering.
(day) 60-61°F (16°C) **(night)** 59°F (15°C) **Before flower development:** **(day)** 65-75°F (18-24°C) **(night)** 63-65°F (17-18°C)	28-40 in. (71-102 cm)	We recommend to give the plants a short-day treatment for 3 to 4 weeks after transplant for the best uniformity and quality crop. After the short-day treatment, plants can be grown in long days. Celosia makes a taproot and is sensitive to root damage, which will result in early bud formation, deformed flowers and less uniformity. Therefore, plant before the plugs get rootbound. Maintain a constantly moist media, especially for the first 2 weeks after transplanting, to prevent premature flowering.
(day) 60-61°F (16°C) **(night)** 59°F (15°C) **Before flower development:** **(day)** 65-75°F (18-24°C) **(night)** 63-65°F (17-18°C)	28-40 in. (71-102 cm)	Celosia makes a taproot and is sensitive to root damage, which will result in early bud formation, deformed flowers and less uniformity. Therefore, plant before the plugs get rootbound. Maintain a constantly moist media, especially for the first 2 weeks after transplanting, to prevent premature flowering.
(day) 60-61°F (16°C) **(night)** 59°F (15°C) **Before flower development:** **(day)** 65-75°F (18-24°C) **(night)** 63-65°F (17-18°C)	28-40 in. (71-102 cm)	Celosia makes a taproot and is sensitive to root damage, which will result in early bud formation, deformed flowers and less uniformity. Therefore, plant before the plugs get rootbound. Maintain a constantly moist media, especially for the first 2 weeks after transplanting, to prevent premature flowering.
Autumn: **(day)** 63-68°F (17-20°C) **(night)** 53-58°F (12-14°C) **Spring:** **(day)** 65-68°F (18-20°C) **(night)** 53-58°F (12-14°C) **Summer:** **(day)** 65-68°F (18-20°C) **(night)** 53-58°F (12-14°C)	20-35 in. (51-89 cm)	Planting density: Annual greenhouse production = 12 to 16 plants/m². Annual field production = 16 to 18 plants/m². Perennial field production = 9 plants/m². Do not pinch. Fertilize frequently with well-balanced fertilizer. Avoid ratio N:K larger than 2. Irrigation: overhead only first 4 to 6 weeks, then use drip. Needs medium to high irrigation, but keep plants dry and low RH. Prefers high light conditions. Cut stems 6 in. (15 cm) above ground to prevent Root Rot. Harvest when 25 to 30% of flowers are open. For annual cycle: from early transplant (January/February); first harvest after 12 to 15 weeks; then next 1 or 2 each 5 to 6 weeks later. Second and third harvests give best quality stems.

CLASS/SERIES	DAYLENGTH	RECOMMENDED PLUG SIZE	FINISHING PROGRAMS
DELPHINIUM *Delphinium elatum* **Guardian F₁ Series**	Facultative Long Day	288	Autumn: 4 plants/ft² (43 plants/m²), 13-16 weeks Spring: 4 plants/ft² (43 plants/m²), 11-13 weeks Summer: 4 plants/ft² (43 plants/m²), 11-13 weeks
DIANTHUS *Dianthus barbatus interspecific* **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.	288	Spring: 3-4 plants/ft² (32-43 plants/m²), 12-18 weeks
DIANTHUS *Dianthus barbatus* **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.	288	Spring: 4-6 plants/ft² (43-65 plants/m²), 11-15 weeks
GOMPHRENA *Gomphrena haageana* **QIS Series**		288	Spring: 1 plants/ft² (11 plants/m²), 10-12 weeks
GRASS PANICUM CAPILLARE *Panicum capillare* **Frosted Explosion**	Facultative Short Day Facultative short day. Daylength extension will ensure good stem length when days are shorter than 14 hours.	288	**Greenhouse:** Autumn: 2-3 plants/ft² (22-32 plants/m²), 11-14 weeks Spring: 2-3 plants/ft² (22-32 plants/m²), 11-14 weeks Summer: 2-3 plants/ft² (22-32 plants/m²), 8-11 weeks
LIMONIUM *Limonium sinuatum* **QIS Series**	Facultative Long Day	288	Spring: 1-2 plants/ft² (11-22 plants/m²), 18-22 weeks
LISIANTHUS *Eustoma grandiflorum* **ABC™ F₁ Series**	Facultative Long Day Crop time is dependent on time of year, temperature, use of supplemental lighting and greenhouse conditions, in coordination with the Seasonality number being used. As a general guide, the time from transplant to harvest for the ABC series will be 16 weeks for Seasonality Number 1 varieties grown under short days, to 13 weeks for Seasonality Number 4 varieties grown under long days. Reference the Seasonality Number Guide for ABC Lisianthus in the PanAmerican Seed Catalog.	406	Summer: 8 plants/ft² (86 plants/m²), 10-12 weeks Winter: 6 plants/ft² (65 plants/m²), 14-18 weeks
LISIANTHUS *Eustoma grandiflorum* **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.	406	Summer: 8 plants/ft² (86 plants/m²), 10-12 weeks Winter: 6 plants/ft² (65 plants/m²), 14-18 weeks
LISIANTHUS *Eustoma grandiflorum* **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.	406	Summer: 8 plants/ft² (86 plants/m²), 10-12 weeks Winter: 6 plants/ft² (65 plants/m²), 14-18 weeks
MATRICARIA *Tanacetum parthenium* **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.	288	Summer: 8 plants/ft² (86 plants/m²), 7-10 weeks Winter: 7 plants/ft² (75 plants/m²), 14-16 weeks Spring: 8 plants/ft² (86 plants/m²), 10-14 weeks

	GROWING ON TEMPERATURE (DAYS/NIGHTS)	STEM LENGTH	KEY TIPS
	Autumn: **(day)** 68-71°F (20-22°C) **(night)** 60-65°F (16-18°C) **Spring:** **(day)** 68-71°F (20-22°C) **(night)** 60-65°F (16-18°C) **Summer:** **(day)** 68-71°F (20-22°C) **(night)** 60-65°F (16-18°C)	30-39 in. (76-99 cm)	Autumn: greenhouse 13 weeks, field 16 weeks. Spring: greenhouse 11 weeks, field 13 weeks. Treat cut stems with an ethylene-inhibiting agent. In temperate areas such as coastal California, plugs are generally transplanted into the field August through October, and February to early May. Autumn transplants will flower the following Spring (February onward); Spring transplants flower late Spring.
	Before flower development: **(day)** 60-72°F (16-22°C) **(night)** 50-60°F (10-16°C)	20-36 in. (51-91 cm)	Transplant directly into ground beds approximately 5 weeks after sowing, spacing 3 to 4 plants per net sq. ft. (approximately 30 to 40 plants per net sq. m). If main stem is pinched on Amazon dianthus, then space at 1.5 plants per net sq. ft. (approximately 15 plants per net sq. m). A single layer of support netting is recommended. A small percentage (3 to 5%) of early off-types can be observed with Amazon dianthus at 4 to 5 weeks from sowing. These plants should be removed/discarded at transplant.
	Before flower development: **(day)** 60-72°F (16-22°C) **(night)** 50-60°F (10-16°C)	18-36 in. (46-91 cm)	Sweet dianthus can be transplanted year-round in coastal California or similar climates, where mid-August to February 1 transplants will develop the best stem length. Stem length for the Sweet series from transplants April to July may not be of sufficient length for commercial production depending on the environment. Greenhouse-grown plants generally produce taller stems than plants that are field-grown. Harvest stems with at least 3 open flowers. Plants can be harvested continuously for approximately 2 to 3 weeks. If cut back, a second flush of flowers will be ready to harvest in 8 to 10 weeks. Note: A second crop is only advisable from an Autumn harvest, so the second flush develops under the cooler conditions of late Autumn and Winter and builds stronger plants. A single layer of support netting is recommended.
	Before flower development: **(day)** 65-75°F (18-24°C) **(night)** 63-66°F (17-19°C)	24-26 in. (61-66 cm)	To increase productivity, the first blooms of the plants can be removed so that the secondaries will develop strongly.
		20-28 in. (51-71 cm)	Needs sufficient light intensity at a minimum of 150W/m². 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.
	Before flower development: **(day)** 55-60°F (13-16°C) **(night)** 50-55°F (10-13°C)	30-35 in. (76-89 cm)	Popular series for both fresh and preserved cut flower production. Stiff stems do not require netting. They will flower slightly quicker if the plugs are subjected to vernalization before transplanting.
	Before flower development: **(day)** 68-75°F (20-24°C) **(night)** 60-65°F (16-18°C)	29-45 in. (74-114 cm)	Full-sun plantings of cut flower lisianthus produce shorter stems than greenhouse-grown lisianthus.
	Before flower development: **(day)** 68-75°F (20-24°C) **(night)** 65°F (18°C)	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.
	Before flower development: **(day)** 68-75°F (20-24°C) **(night)** 60-65°F (16-18°C)	29-45 in. (74-114 cm)	Full-sun plantings of cut flower lisianthus produce shorter stems than greenhouse-grown lisianthus. Flare is a series of 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.
	Summer: **(day)** 72-74°F (22-23°C) **(night)** 72-74°F (22-23°C) **Winter:** **(day)** 55-58°F (13-14°C) **(night)** 55-58°F (13-14°C)	28-36 in. (71-91 cm)	Matricaria is not sensitive to ethylene. Stem length is affected by daylength, temperature and fertility. High temperatures during induction will result in shorter stems.

CLASS/SERIES	DAYLENGTH	RECOMMENDED PLUG SIZE	FINISHING PROGRAMS
MATTHIOLA *Matthiola incana* **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.	288	**Greenhouse:** Autumn: 6-7 plants/ft² (65-75 plants/m²), 8-10 weeks Spring: 6-7 plants/ft² (65-75 plants/m²), 10-11 weeks Summer: 6-7 plants/ft² (65-75 plants/m²), 6-8 weeks Winter: 6 plants/ft² (65 plants/m²), 12-14 weeks
MATTHIOLA *Matthiola incana* **Column Stock Series**		Direct sow	**Field grown:** Winter: 20-22 weeks
MATTHIOLA *Matthiola incana* **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.	288	**Greenhouse:** Autumn: 6-7 plants/ft² (65-75 plants/m²), 8-10 weeks Spring: 6-7 plants/ft² (65-75 plants/m²), 10-11 weeks Summer: 6-7 plants/ft² (65-75 plants/m²), 6-8 weeks Winter: 6 plants/ft² (65 plants/m²), 12-14 weeks
MATTHIOLA *Matthiola incana* **Katz Hi Double Series**		512	Autumn: 12 plants/ft² (129 plants/m²), 7-11 weeks Spring: 12 plants/ft² (129 plants/m²), 8-13 weeks
MATTHIOLA *Matthiola incana* **Katz Series**		512	Autumn: 12 plants/ft² (129 plants/m²), 7-11 weeks Spring: 12 plants/ft² (129 plants/m²), 8-13 weeks
MATTHIOLA *Matthiola incana* **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.	288	**Greenhouse:** Autumn: 6-7 plants/ft² (65-75 plants/m²), 8-10 weeks Spring: 6-7 plants/ft² (65-75 plants/m²), 10-11 weeks Summer: 6-7 plants/ft² (65-75 plants/m²), 6-8 weeks Winter: 6 plants/ft² (65 plants/m²), 12-14 weeks
MATTHIOLA *Matthiola incana* **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.	288	**Greenhouse:** Autumn: 6-7 plants/ft² (65-75 plants/m²), 8-10 weeks Spring: 6-7 plants/ft² (65-75 plants/m²), 10-11 weeks Summer: 6-7 plants/ft² (65-75 plants/m²), 6-8 weeks Winter: 6 plants/ft² (65 plants/m²), 12-14 weeks
MATTHIOLA *Matthiola incana* **Tosca Series**		288	**Greenhouse:** Autumn: 6-7 plants/ft² (65-75 plants/m²), 8-10 weeks Spring: 6-7 plants/ft² (65-75 plants/m²), 10-11 weeks Summer: 6-7 plants/ft² (65-75 plants/m²), 6-8 weeks Winter: 6 plants/ft² (65 plants/m²), 12-14 weeks
SNAPDRAGON *Antirrhinum majus* **Cool F_1 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 1,2.	406	Winter: 6-10 plants/ft² (65-108 plants/m²), 8-18 weeks
SNAPDRAGON *Antirrhinum majus* **Early Potomac™ F_1 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.	406	Summer: 6-10 plants/ft² (65-108 plants/m²), 8-18 weeks
SNAPDRAGON *Antirrhinum majus* **Maryland F_1 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 1,2.	406	Autumn: 6-10 plants/ft² (65-108 plants/m²), 8-18 weeks Spring: 6-10 plants/ft² (65-108 plants/m²), 8-18 weeks

GROWING ON TEMPERATURE (DAYS/NIGHTS)	STEM LENGTH	KEY TIPS
(day) 50-62°F (10-17°C) **(night)** 50-62°F (10-17°C)	30-34 in. (76-86 cm)	Double-flowering matthiola may be selected from single-flowering types by exposing seedlings with fully expanded cotyledons to 41°F (5°C) for approximately 3 to 5 days. At this point, seedlings of double-flowering plants will appear a pale green, while singles remain dark green. After removal from cold treatment, double-flowering seedlings will appear yellow and chlorotic within 1 to 2 days, while single-flowering seedlings remain robust and green. This cold treatment may only be done once to selectable matthiola plugs.
Before flower development: **(day)** 55-65°F (13-18°C) **(night)** 55-60°F (13-16°C)	24-30 in. (61-76 cm)	Column stocks are non-selectable for doubleness. Supply one layer of support netting. Direct sow seed at 2.2 lbs./acre (1 kg/4,000 m²). Optimum stem length will be achieved during cool growing periods. High heat can stunt plants or prevent flower spikes from developing.
(day) 50-62°F (10-17°C) **(night)** 50-62°F (10-17°C)	30-34 in. (76-86 cm)	Double-flowering matthiola may be selected from single-flowering types by exposing seedlings with fully expanded cotyledons to 41°F (5°C) for approximately 3 to 5 days. At this point, seedlings of double-flowering plants will appear a pale green, while singles remain dark green. After removal from cold treatment, double-flowering seedlings will appear yellow and chlorotic within 1 to 2 days, while single-flowering seedlings remain robust and green. This cold treatment may only be done once to selectable matthiola plugs.
Before flower development: **(day)** 60-75°F (16-24°C) **(night)** 45-55°F (7-13°C)	32 in. (81 cm)	Crop time is dependent on daylength and light intensity. As a general guide, with daylength of 13 hours or more, the crop time will be 8 weeks from planting. Shorter days will slow the crop time, depending on the temperature, up to 13 weeks from planting. Best performance when grown in tunnels.
Before flower development: **(day)** 60-75°F (16-24°C) **(night)** 45-55°F (7-13°C)	32 in. (81 cm)	Crop time is dependent on daylength and light intensity. As a general guide, with daylength of 13 hours or more, the crop time will be 8 weeks from planting. Shorter days will slow the crop time, depending on the temperature, up to 13 weeks from planting. Best performance when grown in tunnels. Not recommended for selecting double-flowering plants at cotyledon stage.
Spring: **(day)** 50-62°F (10-17°C) **(night)** 50-62°F (10-17°C)	30-34 in. (76-86 cm)	Double-flowering matthiola may be selected from single-flowering types by exposing seedlings with fully expanded cotyledons to 41°F (5°C) for approximately 3 to 5 days. At this point, seedlings of double-flowering plants will appear a pale green, while singles remain dark green. After removal from cold treatment, double-flowering seedlings will appear yellow and chlorotic within 1 to 2 days, while single-flowering seedlings remain robust and green. This cold treatment may only be done once to selectable matthiola plugs.
(day) 50-62°F (10-17°C) **(night)** 50-62°F (10-17°C)	30-34 in. (76-86 cm)	Double-flowering matthiola may be selected from single-flowering types by exposing seedlings with fully expanded cotyledons to 41°F (5°C) for approximately 3 to 5 days. At this point, seedlings of double-flowering plants will appear a pale green, while singles remain dark green. After removal from cold treatment, double-flowering seedlings will appear yellow and chlorotic within 1 to 2 days, while single-flowering seedlings remain robust and green. This cold treatment may only be done once to selectable matthiola plugs.
Spring: **(day)** 50-62°F (10-17°C) **(night)** 50-62°F (10-17°C)	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.
Before flower development: **(day)** 55-70°F (13-21°C) **(night)** 45-55°F (7-13°C)	39-60 in. (99-152 cm)	Group 1: Night: 45 to 50°F (7 to 10°C), Day: 50 to 55°F (10 to 13°C). 1,000 to 1,500 foot-candles. Group 2: Night: 50 to 55°F (10 to 13°C), Day: 55 to 60°F (13 to 16°C). 1,500 to 3,000 foot-candles. Two support nets are the minimum, but three are preferred. Mesh sizes of 4 x 4 in. (10 x 10 cm) to 6 x 6 in. (15 x 15 cm) are most commonly used. Place the first level at 4 to 6 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.
Before flower development: **(day)** 70-85°F (21-29°C) **(night)** 55-60°F (13-16°C)	39-60 in. (99-152 cm)	Group 3: Night: 55 to 60°F (13 to 16°C), Day: 60 to -65°F (16 to 18°C). 2,500 to 4,500 foot-candles. Group 4: Night: >60°F (>16°C), Day: >65°F (>18°C). 3,000 to 5,000 foot-candles. Two support nets are the minimum, but three are preferred. Mesh sizes of 4 x 4 in. (10 x 10 cm) to 6 x 6 in. (15 x 15 cm) are most commonly used. Place the first level at 4 to 6 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.
Before flower development: **(day)** 55-70°F (13-21°C) **(night)** 45-55°F (7-13°C)	39-60 in. (99-152 cm)	Group 1: Night: 45 to 50°F (7 to 10°C), Day: 50 to 55°F (10 to 13°C). 1,000 to 1,500 foot-candles. Group 2: Night: 50 to 55°F (10 to 13°C), Day: 55 to 60°F (13 to 16°C). 1,500 to 3,000 foot-candles. Two support nets are the minimum, but three are preferred. Mesh sizes of 4 x 4 in. (10 x 10 cm) to 6 x 6 in. (15 x 15 cm) are most commonly used. Place the first level at 4 to 6 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.

CLASS/SERIES	DAYLENGTH	RECOMMENDED PLUG SIZE	FINISHING PROGRAMS
SNAPDRAGON *Antirrhinum majus* **Monaco F_1 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.	406	Autumn: 6-10 plants/ft² (65-108 plants/m²), 8-18 weeks Spring: 6-10 plants/ft² (65-108 plants/m²), 8-18 weeks
SNAPDRAGON *Antirrhinum majus* **Potomac™ F_1 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.	406	Summer: 6-10 plants/ft² (65-108 plants/m²), 8-18 weeks
SNAPDRAGON *Antirrhinum majus* **Purple Twist F_1**	Bred for specific seasonal performance, the PanAmerican Snapdragon assortment provides market-leading varieties for year-round production. Transplanting outside of recommended seasons is not recommended. Purple Twist is Winter/Early Spring Flowering, Group 1,2.	406	Spring: 6-10 plants/ft² (65-108 plants/m²), 8-18 weeks
SNAPDRAGON *Antirrhinum majus* **Red Delilah F_1**	Bred for specific seasonal performance, the PanAmerican Snapdragon assortment provides market-leading varieties for year-round production. Transplanting outside of recommended seasons is not recommended. Red Delilah is Winter/Early Spring Flowering, Group 1,2.	406	Spring: 6-10 plants/ft² (65-108 plants/m²), 8-18 weeks Winter: 6-10 plants/ft² (65-108 plants/m²), 8-18 weeks
SNAPDRAGON *Antirrhinum majus* **Rocket F_1 Series**		406	Spring: 3-4 plants/ft² (32-43 plants/m²), 13-16 weeks
SUNFLOWER *Helianthus annuus* **Jua F_1 Series**		288 Direct sow	Summer: 4-5 plants/ft² (43-54 plants/m²), 8-11 weeks
TRACHELIUM *Trachelium caeruleum* **Lake Series**	Obligate Long Day Trachelium needs 16-hour daylength.	288	**Greenhouse:** 6-8 plants/ft² (65-86 plants/m²), 10-18 weeks

GROWING ON TEMPERATURE (DAYS/NIGHTS)	STEM LENGTH	KEY TIPS
Before flower development: **(day)** 60-75°F (16-24°C) **(night)** 52-57°F (11-14°C)	39-60 in. (99-152 cm)	Group 2: Night: 50 to 55°F (10 to 13°C), Day: 55 to 60°F (13 to 16°C). 1,500 to 3,000 foot-candles. Group 3: Night: 55 to 60°F (13 to 16°C), Day: 60 to 65°F (16 to 18°C). 2,500 to 4,500 foot-candles. Two support nets are the minimum, but three are preferred. Mesh sizes of 4 x 4 in. (10 x 10 cm) to 6 x 6 in. (15 x 15 cm) are most commonly used. Place the first level at 4 to 6 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.
Summer: **(day)** 70-85°F (21-29°C) **(night)** 60°F (16°C)	39-60 in. (99-152 cm)	Group 3: Night: 55 to 60°F (13 to 16°C), Day: 60 to 65°F (16 to 18°C). 2,500 to 4,500 foot-candles. Group 4: Night: >60°F (>16°C), Day: >65°F (>18°C). 3,000 to 5,000 foot-candles. Two support nets are the minimum, but three are preferred. Mesh sizes of 4 x 4 in. (10 x 10 cm) to 6 x 6 in. (15 x 15 cm) are most commonly used. Place the first level at 4 to 6 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.
Before flower development: **(day)** 55-70°F (13-21°C) **(night)** 50-55°F (10-13°C)	39-60 in. (99-152 cm)	Group 1: Night: 45 to 50°F (7 to 10°C), Day: 50 to 55°F (10 to 13°C). 1,000 to 1,500 foot-candles. Group 2: Night: 50 to 55°F (10 to 13°C), Day: 55 to 60°F (13 to 16°C). 1,500 to 3,000 foot-candles. Two support nets are the minimum, but three are preferred. Mesh sizes of 4 x 4 in. (10 x 10 cm) to 6 x 6 in. (15 x 15 cm) are most commonly used. Place the first level at 4 to 6 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 stand-alone Group 1,2 variety can be produced along with the Maryland series.
Before flower development: **(day)** 55-70°F (13-21°C) **(night)** 50-55°F (10-13°C)	39-60 in. (99-152 cm)	Group 1: Night: 45 to 50°F (7 to 10°C), Day: 50 to 55°F (10 to 13°C). 1,000 to 1,500 foot-candles. Group 2: Night: 50 to 55°F (10 to 13°C), Day: 55 to 60°F (13 to 16°C). 1,500 to 3,000 foot-candles. Two support nets are the minimum, but three are preferred. Mesh sizes of 4 x 4 in. (10 x 10 cm) to 6 x 6 in. (15 x 15 cm) are most commonly used. Place the first level at 4 to 6 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 novelty standalone Group 1,2 variety features a flower spike with red and white tube flowers. It can be scheduled and grown along with the Maryland series.
Before flower development: **(day)** 65-80°F (18-27°C) **(night)** 55-60°F (13-16°C)	30-36 in. (76-91 cm)	Versatile snapdragon can be used as both a landscape series and as a field-grown cut flower. Makes an excellent quality Group 3,4 Spring and Summer-flowering landscape snapdragon. Group 3: Night: 55 to 60°F (13 to 16°C), Day: 60 to 65°F (16 to 18°C). 2,500 to 4,500 foot-candles. Group 4: Night: >60°F (>16°C), Day: >65°F (>18°C). 3,000 to 5,000 foot-candles.
Before flower development: **(day)** 65-85°F (18-29°C) **(night)** 50-65°F (10-18°C)	36-60 in. (91-152 cm)	Suitable for short and long-day conditions. Bred for best-quality flowers under long-day conditions.
Autumn: **(day)** 55°F (13°C) **(night)** 52°F (11°C) **Spring:** **(day)** 65°F (18°C) **(night)** 60°F (16°C) **Summer:** **(day)** 78°F (26°C) **(night)** 60-68°F (16-20°C) **Winter:** **(day)** 55°F (13°C) **(night)** 52°F (11°C)	30-42 in. (76-107 cm)	The greatest potential for year-round production in mild climates. Midseason flowering (transitional Group 3) series for mid-Winter to early-Spring transplants to yield late-Spring to early-Summer flowers. May also be transplanted late Summer to early Autumn for Autumn to early-Winter flowering.

SEED PRODUCT INFORMATION GUIDE

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CLASS/SERIES	SEED FORM	RECOMMENDED PLUG SIZE	PLUG CROP WEEKS	SEEDS/ CELL	COVER SEED	DAYS TO GERMINATE	INITIAL MEDIA PH/EC	STAGE 1	
CUCUMBER *Cucumis sativus* **Gherking F$_1$**	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 *Cucumis sativus* **Martini F$_1$**	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 *Cucumis sativus* **Patio Snacker F$_1$**	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 *Solanum melongena* **Asian Delite F$_1$**	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 *Solanum melongena* **Fairy Tale F$_1$**	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 *Solanum melongena* **Gretel F$_1$**	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 *Solanum melongena* **Hansel F$_1$**	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 *Solanum melongena* **Patio Baby F$_1$**	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) *Ocimum basilicum* **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) *Ocimum basilicum* **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	

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 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.

CLASS/SERIES	SEED FORM	RECOMMENDED PLUG SIZE	PLUG CROP WEEKS	SEEDS/ CELL	COVER SEED	DAYS TO GERMINATE	INITIAL MEDIA PH/EC	STAGE 1	
HERB (BASIL) *Ocimum basilicum* **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) *Ocimum basilicum* **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) *Ocimum basilicum* **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 (BASIL) *Ocimum basilicum* **Sweet Dani Lemon**	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) *Anethum graveolens* **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™) *Ocimum basilicum* **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™) *Petroselinum crispum* **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™) *Anethum graveolens* **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™) *Petroselinum crispum* **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™) *Origanum vulgare* **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™) *Rosmarinus officinalis* **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™) *Salvia officinalis* **Sage**	PMPL	288	3-4	1	Yes	5-8	5.5-58.0 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™) *Thymus vulgaris* **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	

	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)** 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.

CLASS/SERIES	SEED FORM	RECOMMENDED PLUG SIZE	PLUG CROP WEEKS	SEEDS/ CELL	COVER SEED	DAYS TO GERMINATE	INITIAL MEDIA PH/EC	STAGE 1	
HERB (SIMPLYHERBS™) *Ocimum basilicum* **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 *Capsicum baccatum* **Aji Rico F_1**	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 *Capsicum annuum* **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 *Capsicum annuum* **Candy Cane Red F_1**	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 *Capsicum annuum* **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 *Capsicum annuum* **La Bomba II F_1**	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 *Capsicum baccatum* **Mad Hatter F_1**	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 *Capsicum annuum* **PeppiGrande Red F_1**	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 *Capsicum chinense* **Primero Red F_1**	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)** 68-72°F (20-22°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 2-4 **(t)** 65-70°F (18-21°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 2-4 **(t)** 62-67°F (17-19°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	Height can be controlled by withholding fertilizer, avoiding overwatering, growing under high light conditions and using DIF when possible. If necessary, uniconazole (Sumagic) at rate of 2.5 to 5 ppm can be applied at 2 weeks after sowing for height control. Repeat 2 weeks later if needed.
(m) Level 3-4 **(t)** 68-72°F (20-22°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 2-4 **(t)** 65-70°F (18-21°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 2-4 **(t)** 62-67°F (17-19°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	Height can be controlled by withholding fertilizer, avoiding overwatering, growing under high light conditions and using DIF when possible. If necessary, uniconazole (Sumagic) at rate of 2.5 to 5 ppm can be applied at 2 weeks after sowing for height control. Repeat 2 weeks later if needed.
(m) Level 3-4 **(t)** 68-72°F (20-22°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 2-4 **(t)** 65-70°F (18-21°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 2-4 **(t)** 62-67°F (17-19°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	Height can be controlled by withholding fertilizer, avoiding overwatering, growing under high light conditions and using DIF when possible. If necessary, uniconazole (Sumagic) at rate of 2.5 to 5 ppm can be applied at 2 weeks after sowing for height control. Repeat 2 weeks later if needed.
(m) Level 3-4 **(t)** 68-72°F (20-22°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 2-4 **(t)** 65-70°F (18-21°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 2-4 **(t)** 62-67°F (17-19°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	Height can be controlled by withholding fertilizer, avoiding overwatering, growing under high light conditions and using DIF when possible. If necessary, uniconazole (Sumagic) at rate of 2.5 to 5 ppm can be applied at 2 weeks after sowing for height control. Repeat 2 weeks later if needed.
(m) Level 3-4 **(t)** 68-72°F (20-22°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 2-4 **(t)** 65-70°F (18-21°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 2-4 **(t)** 62-67°F (17-19°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	Height can be controlled by withholding fertilizer, avoiding overwatering, growing under high light conditions and using DIF when possible. If necessary, uniconazole (Sumagic) at rate of 2.5 to 5 ppm can be applied at 2 weeks after sowing for height control. Repeat 2 weeks later if needed.
(m) Level 3-4 **(t)** 68-72°F (20-22°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 2-4 **(t)** 65-70°F (18-21°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 2-4 **(t)** 62-67°F (17-19°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	Height can be controlled by withholding fertilizer, avoiding overwatering, growing under high light conditions and using DIF when possible. If necessary, uniconazole (Sumagic) at rate of 2.5 to 5 ppm can be applied at 2 weeks after sowing for height control. Repeat 2 weeks later if needed.
(m) Level 3-4 **(t)** 68-72°F (20-22°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 2-4 **(t)** 65-70°F (18-21°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 2-4 **(t)** 62-67°F (17-19°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	Height can be controlled by withholding fertilizer, avoiding overwatering, growing under high light conditions and using DIF when possible. If necessary, uniconazole (Sumagic) at rate of 2.5 to 5 ppm can be applied at 2 weeks after sowing for height control. Repeat 2 weeks later if needed.
(m) Level 3-4 **(t)** 68-72°F (20-22°C) **(l)** 1,000-2,500 $mol \cdot m^{-2} \cdot d^{-1}$ **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 2-4 **(t)** 65-70°F (18-21°C) **(l)** 1,000-2,500 $mol \cdot m^{-2} \cdot d^{-1}$ **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 2-4 **(t)** 62-67°F (17-19°C) **(l)** 2,500-5,000 $mol \cdot m^{-2} \cdot d^{-1}$ **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	Height can be controlled by withholding fertilizer, avoiding overwatering, growing under high light conditions and using DIF when possible. If necessary, uniconazole (Sumagic) at rate of 2.5 to 5 ppm can be applied at 2 weeks after sowing for height control. Repeat 2 weeks later if needed.

CLASS/SERIES	SEED FORM	RECOMMENDED PLUG SIZE	PLUG CROP WEEKS	SEEDS/ CELL	COVER SEED	DAYS TO GERMINATE	INITIAL MEDIA PH/EC	STAGE 1	
PEPPER *Capsicum annuum* **Snackabelle Red F$_1$**	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 *Capsicum annuum* **Sweet Heat F$_1$**	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	
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® *Eruca sativa* **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® *Barbarea verna* **Cress**	PMPL	128	3-4	1	Yes	2-3	5.5-5.8 pH 0.75 mmhos/cm	**(m)** Level 4 **(t)** 68-74°F (20-23°C) **(l)** Optional **(f)** Less than 100 ppm N - Less than 0.7 EC	
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® *Brassica oleracea* **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® *Brassica sp.* **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® *Brassica sp.* **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 mol·m^{-2}·d^{-1} **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 2-4 **(t)** 65-70°F (18-21°C) **(l)** 1,000-2,500 mol·m^{-2}·d^{-1} **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 2-4 **(t)** 62-67°F (17-19°C) **(l)** 2,500-5,000 mol·m^{-2}·d^{-1} **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	Height can be controlled by withholding fertilizer, avoiding overwatering, growing under high light conditions and using DIF when possible. If necessary, uniconazole (Sumagic) at rate of 2.5 to 5 ppm can be applied at 2 weeks after sowing for height control. Repeat 2 weeks later if needed.
	(m) Level 3-4 **(t)** 68-72°F (20-22°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 2-4 **(t)** 65-70°F (18-21°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	**(m)** Level 2-4 **(t)** 62-67°F (17-19°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** 100 to 175 ppm N - 0.7 to 1.2 EC	Height can be controlled by withholding fertilizer, avoiding overwatering, growing under high light conditions and using DIF when possible. Sweet Heat is naturally compact and should not need PGRs.
	(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)** 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. 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.

CLASS/SERIES	SEED FORM	RECOMMENDED PLUG SIZE	PLUG CROP WEEKS	SEEDS/ CELL	COVER SEED	DAYS TO GERMINATE	INITIAL MEDIA PH/EC	STAGE 1	
SQUASH *Cucurbita moschata* **Autumn Frost F$_1$**	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 *Cucurbita moschata* **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 *Cucurbita pepo* **Easy Pick F$_1$ 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 *Cucurbita moschata* **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 *Cucurbita pepo* **Lemon Sun F$_1$**	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 *Fragaria x ananassa* **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 *Solanum lycopersicum* **Artemis F$_1$**	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 *Solanum lycopersicum* **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 *Solanum lycopersicum* **Chocolate Sprinkles F$_1$**	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 *Solanum lycopersicum* **Heirloom Marriage™ Big Brandy F$_1$**	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	

	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 $mol \cdot m^{-2} \cdot d^{-1}$ **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 2-3 **(t)** 65-70°F (18-21°C) **(l)** 1,000-2,500 $mol \cdot m^{-2} \cdot d^{-1}$ **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 2-3 **(t)** 65-70°F (18-21°C) **(l)** 2,500-5,000 $mol \cdot m^{-2} \cdot d^{-1}$ **(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 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 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.

CLASS/SERIES	SEED FORM	RECOMMENDED PLUG SIZE	PLUG CROP WEEKS	SEEDS/ CELL	COVER SEED	DAYS TO GERMINATE	INITIAL MEDIA PH/EC	STAGE 1	
TOMATO *Solanum lycopersicum* **Heirloom Marriage™ Cherokee Carbon F_1**	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 *Solanum lycopersicum* **Heirloom Marriage™ Genuwine F_1**	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 *Solanum lycopersicum* **Heirloom Marriage™ Jersey Boy F_1**	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 *Solanum lycopersicum* **Heirloom Marriage™ Marzinera F_1**	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 *Solanum lycopersicum* **Heirloom Marriage™ Perfect Flame F_1**	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 *Solanum lycopersicum* **Helix F_1**	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 *Solanum lycopersicum* **Homeslice F_1**	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 *Solanum lycopersicum* **Little Bing F_1**	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 *Solanum lycopersicum* **Little Napoli F_1**	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 *Solanum lycopersicum* **Little Sicily F_1**	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	

	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)** 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) 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. Homeslice is naturally compact and should not need PGRs.
	(m) Level 3-4 **(t)** 68-72°F (20-22°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 2-3 **(t)** 68-72°F (20-22°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 2-3 **(t)** 65-68°F (18-20°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	Height can be controlled by withholding fertilizer, avoiding overwatering, growing under high light conditions and using DIF when possible. Little Bing is naturally compact and should not need PGRs.
	(m) Level 3-4 **(t)** 68-72°F (20-22°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 2-3 **(t)** 68-72°F (20-22°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 2-3 **(t)** 65-68°F (18-20°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	Height can be controlled by withholding fertilizer, avoiding overwatering, growing under high light conditions and using DIF when possible. Little Napoli is naturally compact and should not need PGRs.
	(m) Level 3-4 **(t)** 68-72°F (20-22°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 2-3 **(t)** 68-72°F (20-22°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 2-3 **(t)** 65-68°F (18-20°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	Height can be controlled by withholding fertilizer, avoiding overwatering, growing under high light conditions and using DIF when possible. Little Sicily is naturally compact and should not need PGRs.

CLASS/SERIES	SEED FORM	RECOMMENDED PLUG SIZE	PLUG CROP WEEKS	SEEDS/ CELL	COVER SEED	DAYS TO GERMINATE	INITIAL MEDIA PH/EC	STAGE 1	
TOMATO *Solanum lycopersicum* **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 *Solanum lycopersicum* **Midnight Snack F$_1$**	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 *Solanum lycopersicum* **Orange Zinger F$_1$**	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 *Solanum lycopersicum* **Stellar F$_1$**	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 *Solanum lycopersicum* **Sugar Rush F$_1$**	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 *Solanum lycopersicum* **Sunrise Sauce F$_1$**	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 *Solanum lycopersicum* **Tidy Rose F$_1$**	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 *Solanum lycopersicum* **Tidy Treats F$_1$**	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 *Solanum lycopersicum* **Topsy Tom F$_1$**	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 *Solanum lycopersicum* **Tumbler F$_1$**	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	

	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)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 2-3 **(t)** 65-68°F (18-20°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	Height can be controlled by withholding fertilizer, avoiding overwatering, growing under high light conditions and using DIF when possible. Micro Tom is naturally compact and should not need PGRs.
	(m) Level 3-4 **(t)** 68-72°F (20-22°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 2-3 **(t)** 68-72°F (20-22°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 2-3 **(t)** 65-68°F (18-20°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	Height can be controlled by withholding fertilizer, avoiding overwatering, growing under high light conditions and using DIF when possible. If necessary, uniconazole (Sumagic) at rate of 2.5 to 5 ppm can be applied at 2 weeks after sowing for height control. Repeat 2 weeks later if needed.
	(m) Level 3-4 **(t)** 68-72°F (20-22°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 2-3 **(t)** 68-72°F (20-22°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 2-3 **(t)** 65-68°F (18-20°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	Height can be controlled by withholding fertilizer, avoiding overwatering, growing under high light conditions and using DIF when possible. If necessary, uniconazole (Sumagic) at rate of 2.5 to 5 ppm can be applied at 2 weeks after sowing for height control. Repeat 2 weeks later if needed.
	(m) Level 3-4 **(t)** 68-72°F (20-22°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 2-3 **(t)** 68-72°F (20-22°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 2-3 **(t)** 65-68°F (18-20°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	Height can be controlled by withholding fertilizer, avoiding overwatering, growing under high light conditions and using DIF when possible. If necessary, uniconazole (Sumagic) at rate of 2.5 to 5 ppm can be applied at 2 weeks after sowing for height control. Repeat 2 weeks later if needed.
	(m) Level 3-4 **(t)** 68-72°F (20-22°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 2-3 **(t)** 68-72°F (20-22°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 2-3 **(t)** 65-68°F (18-20°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	Height can be controlled by withholding fertilizer, avoiding overwatering, growing under high light conditions and using DIF when possible. If necessary, uniconazole (Sumagic) at rate of 2.5 to 5 ppm can be applied at 2 weeks after sowing for height control. Repeat 2 weeks later if needed.
	(m) Level 3-4 **(t)** 68-72°F (20-22°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 2-3 **(t)** 68-72°F (20-22°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 2-3 **(t)** 65-68°F (18-20°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	Height can be controlled by withholding fertilizer, avoiding overwatering, growing under high light conditions and using DIF when possible. If necessary, uniconazole (Sumagic) at rate of 2.5 to 5 ppm can be applied at 2 weeks after sowing for height control. Repeat 2 weeks later if needed.
	(m) Level 3-4 **(t)** 68-72°F (20-22°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 2-3 **(t)** 68-72°F (20-22°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 2-3 **(t)** 65-68°F (18-20°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	Height can be controlled by withholding fertilizer, avoiding overwatering, growing under high light conditions and using DIF when possible. If necessary, uniconazole (Sumagic) at rate of 2.5 to 5 ppm can be applied at 2 weeks after sowing for height control. Repeat 2 weeks later if needed.
	(m) Level 3-4 **(t)** 68-72°F (20-22°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 2-3 **(t)** 68-72°F (20-22°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 2-3 **(t)** 65-68°F (18-20°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	Height can be controlled by withholding fertilizer, avoiding overwatering, growing under high light conditions and using DIF when possible. If necessary, uniconazole (Sumagic) at rate of 2.5 to 5 ppm can be applied at 2 weeks after sowing for height control. Repeat 2 weeks later if needed.
	(m) Level 3-4 **(t)** 68-72°F (20-22°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 2-3 **(t)** 68-72°F (20-22°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 2-3 **(t)** 65-68°F (18-20°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	Height can be controlled by withholding fertilizer, avoiding overwatering, growing under high light conditions and using DIF when possible. Topsy Tom is naturally compact and should not need PGRs.
	(m) Level 3-4 **(t)** 68-72°F (20-22°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 2-3 **(t)** 68-72°F (20-22°C) **(l)** 1,000-2,500 f.c. (10,800-26,900 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	**(m)** Level 2-3 **(t)** 65-72°F (18-22°C) **(l)** 2,500-5,000 f.c. (26,900-53,800 Lux) **(f)** Less than 100 ppm N - Less than 0.7 EC	Height can be controlled by withholding fertilizer, avoiding overwatering, growing under high light conditions and using DIF when possible. Tumbler is naturally compact and should not need PGRs.

CLASS/SERIES	RECOMMENDED PLUG SIZE	GROWING ON TEMPERATURE (DAYS/NIGHTS)	TARGET MEDIA PH/EC	
CUCUMBER *Cucumis sativus* **Gherking F$_1$**	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 *Cucumis sativus* **Martini F$_1$**	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 *Cucumis sativus* **Patio Snacker F$_1$**	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 *Solanum melongena* **Asian Delite F$_1$**	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 *Solanum melongena* **Fairy Tale F$_1$**	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 *Solanum melongena* **Gretel F$_1$**	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 *Solanum melongena* **Hansel F$_1$**	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 *Solanum melongena* **Patio Baby F$_1$**	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) *Ocimum basilicum* **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) *Ocimum basilicum* **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) *Ocimum basilicum* **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) *Ocimum basilicum* **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) *Ocimum basilicum* **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 (BASIL) *Ocimum basilicum* **Sweet Dani Lemon**	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) *Anethum graveolens* **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™) *Ocimum basilicum* **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™) *Petroselinum crispum* **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™) *Anethum graveolens* **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™) *Petroselinum crispum* **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**, 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**, 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**, 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**, 1 (ppp), 4-5 (weeks), Spring **5"/6"/1 Gallon**, 1 (ppp), 5-7 (weeks), Spring	
Cell Pack, 1 (ppp), 4-5 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 4-5 (weeks), Spring **5"/6"/1 Gallon**, 1 (ppp), 5-7 (weeks), Spring	Performs well in-ground and in containers, with or without support.
Cell Pack, 1 (ppp), 4-5 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 4-5 (weeks), Spring **5"/6"/1 Gallon**, 1 (ppp), 5-7 (weeks), Spring	Performs well in-ground and in containers, with or without support.
Cell Pack, 1 (ppp), 4-5 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 4-5 (weeks), Spring **5"/6"/1 Gallon**, 1 (ppp), 5-7 (weeks), Spring	Performs well in-ground and in containers, with or without support.
Cell Pack, 1 (ppp), 4-5 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 4-5 (weeks), Spring **5"/6"/1 Gallon**, 1 (ppp), 5-7 (weeks), Spring	Performs well in-ground and in containers.
Cell Pack, 1 (ppp), 3-4 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 3-4 (weeks), Spring **5"/6"/1 Gallon**, 1-3 (ppp), 4-5 (weeks), Spring	Seed can be directly sown into finish containers
Cell Pack, 1 (ppp), 3-4 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 3-4 (weeks), Spring **5"/6"/1 Gallon**, 1-3 (ppp), 4-5 (weeks), Spring	Seed can be directly sown into finish containers.
Cell Pack, 1 (ppp), 3-4 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 3-4 (weeks), Spring **5"/6"/1 Gallon**, 1 (ppp), 4-5 (weeks), Spring	Seed can be directly sown into finish containers.
Cell Pack, 1 (ppp), 3-4 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 3-4 (weeks), Spring **5"/6"/1 Gallon**, 1-3 (ppp), 4-5 (weeks), Spring	Seed can be directly sown into finish containers.
Cell Pack, 1 (ppp), 3-4 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 3-4 (weeks), Spring **5"/6"/1 Gallon**, 1-3 (ppp), 4-5 (weeks), Spring	Seed can be directly sown into finish containers.
Cell Pack, 1 (ppp), 3-4 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 3-4 (weeks), Spring **5"/6"/1 Gallon**, 1-3 (ppp), 4-5 (weeks), Spring	Seed can be directly sown into finish containers up to 4 in. (10 cm).
Cell Pack, 1 (ppp), 3-4 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 3-4 (weeks), Spring **5"/6"/1 Gallon**, 1-3 (ppp), 4-5 (weeks), Spring	Seed can be directly sown into finish containers.
Cell Pack, 1 (ppp), 3-4 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 3-4 (weeks), Spring	Can be directly sown into final container.
Cell Pack, 1 (ppp), 4-5 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 4-5 (weeks), Spring	Can be directly sown into final container.
Cell Pack, 1 (ppp), 3-4 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 3-4 (weeks), Spring	Can be directly sown into final container.
Cell Pack, 1 (ppp), 4-5 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 4-5 (weeks), Spring	Can be directly sown into final container.

CLASS/SERIES	RECOMMENDED PLUG SIZE	GROWING ON TEMPERATURE (DAYS/NIGHTS)	TARGET MEDIA PH/EC	
HERB (SIMPLYHERBS™) *Origanum vulgare* **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™) *Rosmarinus officinalis* **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™) *Salvia officinalis* **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™) *Thymus vulgaris* **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™) *Ocimum basilicum* **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 *Capsicum baccatum* **Aji Rico F_1**	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 *Capsicum annuum* **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 *Capsicum annuum* **Candy Cane Red F_1**	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 *Capsicum annuum* **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 *Capsicum annuum* **La Bomba II F_1**	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 *Capsicum baccatum* **Mad Hatter F_1**	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 *Capsicum annuum* **PeppiGrande Red F_1**	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 *Capsicum chinense* **Primero Red F_1**	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 *Capsicum annuum* **Snackabelle Red F_1**	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 *Capsicum annuum* **Sweet Heat F_1**	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® *Eruca sativa* **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	

	FINISHING PROGRAMS	KEY TIPS
	Cell Pack, 1 (ppp), 3-4 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 4-5 (weeks), Spring	Can be directly sown into final container.
	Cell Pack, 1 (ppp), 4-5 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 4-5 (weeks), Spring	Can be directly sown into final container.
	Cell Pack, 1 (ppp), 3-4 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 3-4 (weeks), Spring	Can be directly sown into final container.
	Cell Pack, 1 (ppp), 4-5 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 4-5 (weeks), Spring	Can be directly sown into final container.
	Cell Pack, 1 (ppp), 3-4 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 3-4 (weeks), Spring	Can be directly sown into final container.
	Cell Pack, 1 (ppp), 4-6 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 4-6 (weeks), Spring **5"/6"/1 Gallon**, 1 (ppp), 5-7 (weeks), Spring	Large plant habit. Performs best when grown in-ground and with support.
	Cell Pack, 1 (ppp), 4-6 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 4-6 (weeks), Spring **5"/6"/1 Gallon**, 1 (ppp), 5-7 (weeks), Spring	
	Cell Pack, 1 (ppp), 4-6 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 4-6 (weeks), Spring **5"/6"/1 Gallon**, 1 (ppp), 5-7 (weeks), Spring	Performs well in-ground or in a medium container, with or without support.
	Cell Pack, 1 (ppp), 4-6 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 4-6 (weeks), Spring **5"/6"/1 Gallon**, 1 (ppp), 5-7 (weeks), Spring	Performs well in-ground or in a medium container, with or without support.
	Cell Pack, 1 (ppp), 4-6 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 4-6 (weeks), Spring **5"/6"/1 Gallon**, 1 (ppp), 5-7 (weeks), Spring	Performs well in-ground or in a container, with or without support.
	Cell Pack, 1 (ppp), 4-6 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 4-6 (weeks), Spring **5"/6"/1 Gallon**, 1 (ppp), 5-7 (weeks), Spring	Large habit. Performs best when grown in-ground and with support.
	4"/4.5"/Quart, 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**, 1 (ppp), 4-6 (weeks), Spring **5"/6"/1 Gallon**, 1 (ppp), 5-7 (weeks), Spring	Large habit. Performs best when grown in-ground and with support.
	Cell Pack, 1 (ppp), 4-6 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 4-6 (weeks), Spring **5"/6"/1 Gallon**, 1 (ppp), 5-7 (weeks), Spring	Performs well in-ground or in a medium container, with or without support.
	Cell Pack, 1 (ppp), 4-6 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 4-6 (weeks), Spring **5"/6"/1 Gallon**, 1 (ppp), 5-7 (weeks), Spring	Performs very well in containers.
	4"/4.5"/Quart, 1 (ppp), 2-4 (weeks), Spring **8"/2 Gallon**, 3-4 (ppp), 2-4 (weeks), Spring **10" Pot or HB/3 Gallon**, 4-5 (ppp), 4-6 (weeks), Spring **12" Pot or HB/5 Gallon**, 5-6 (ppp), 4-6 (weeks), Spring	Can be directly sown into final container. To achieve faster production with good foliage colour, SimplySalad can be grown at moderate to warm temperatures (55 to 70°F/13 to 21°C), and then finished at 45 to 55°F (7 to 13°C) for 3 to 5 days. Coloured varieties develop pigment very quickly at cooler temperatures.
	4"/4.5"/Quart, 1 (ppp), 2-3 (weeks), Spring **8"/2 Gallon**, 3-4 (ppp), 2-4 (weeks), Spring **10" Pot or HB/3 Gallon**, 4-5 (ppp), 4-6 (weeks), Spring **12" Pot or HB/5 Gallon**, 5-6 (ppp), 4-6 (weeks), Spring	Can be directly sown into final container. 30 to 45 days from transplant to harvest.

CLASS/SERIES	RECOMMENDED PLUG SIZE	GROWING ON TEMPERATURE (DAYS/NIGHTS)	TARGET MEDIA PH/EC	
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® *Barbarea verna* **Cress**	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® *Brassica oleracea* **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® *Brassica sp.* **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® *Brassica sp.* **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 *Cucurbita moschata* **Autumn Frost F_1**	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 *Cucurbita moschata* **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 *Cucurbita pepo* **Easy Pick F_1 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	

	FINISHING PROGRAMS	KEY TIPS
	4"/4.5"/Quart, 1 (ppp), 2-4 (weeks), Spring **8"/2 Gallon**, 3-4 (ppp), 2-4 (weeks), Spring **10" Pot or HB/3 Gallon**, 4-5 (ppp), 4-6 (weeks), Spring **12" Pot or HB/5 Gallon**, 5-6 (ppp), 4-6 (weeks), Spring	Can be directly sown into final container. To achieve faster production with good foliage colour, SimplySalad can be grown at moderate to warm temperatures (55 to 70°F/13 to 21°C), and then finished at 45 to 55°F (7 to 13°C) for 3 to 5 days. Coloured varieties develop pigment very quickly at cooler temperatures.
	4"/4.5"/Quart, 1 (ppp), 3-4 (weeks), Spring **8"/2 Gallon**, 3-4 (ppp), 3-4 (weeks), Spring **10" Pot or HB/3 Gallon**, 4-5 (ppp), 5-6 (weeks), Spring **12" Pot or HB/5 Gallon**, 5-6 (ppp), 5-6 (weeks), Spring	Can be directly sown into final container. 40 to 60 days from transplant to harvest.
	4"/4.5"/Quart, 1 (ppp), 2-4 (weeks), Spring **8"/2 Gallon**, 3-4 (ppp), 2-4 (weeks), Spring **10" Pot or HB/3 Gallon**, 4-5 (ppp), 4-6 (weeks), Spring **12" Pot or HB/5 Gallon**, 5-6 (ppp), 4-6 (weeks), Spring	Can be directly sown into final container. To achieve faster production with good foliage colour, SimplySalad can be grown at moderate to warm temperatures (55 to 70°F/13 to 21°C), and then finished at 45 to 55°F (7 to 13°C) for 3 to 5 days. Coloured varieties develop pigment very quickly at cooler temperatures.
	4"/4.5"/Quart, 1 (ppp), 2-4 (weeks), Spring **8"/2 Gallon**, 3-4 (ppp), 2-4 (weeks), Spring **10" Pot or HB/3 Gallon**, 4-5 (ppp), 4-6 (weeks), Spring **12" Pot or HB/5 Gallon**, 5-6 (ppp), 4-6 (weeks), Spring	Can be directly sown into final container. To achieve faster production with good foliage colour, SimplySalad can be grown at moderate to warm temperatures (55 to 70°F/13 to 21°C), and then finished at 45 to 55°F (7 to 13°C) for 3 to 5 days. Coloured varieties develop pigment very quickly at cooler temperatures. Can be grown in-ground after transplant stage.
	4"/4.5"/Quart, 1 (ppp), 2-3 (weeks), Spring **10" Pot or HB/3 Gallon**, 4-5 (ppp), 3-4 (weeks), Spring **12" Pot or HB/5 Gallon**, 5-6 (ppp), 3-4 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 1-2 (weeks), Summer **10" Pot or HB/3 Gallon**, 4-5 (ppp), 2-3 (weeks), Summer **12" Pot or HB/5 Gallon**, 5-6 (ppp), 2-3 (weeks), Summer	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.
	4"/4.5"/Quart, 1 (ppp), 2-3 (weeks), Spring **10" Pot or HB/3 Gallon**, 4-5 (ppp), 3-4 (weeks), Spring **12" Pot or HB/5 Gallon**, 5-6 (ppp), 3-4 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 1-2 (weeks), Summer **10" Pot or HB/3 Gallon**, 4-5 (ppp), 2-3 (weeks), Summer **12" Pot or HB/5 Gallon**, 5-6 (ppp), 2-3 (weeks), Summer	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.
	4"/4.5"/Quart, 1 (ppp), 2-4 (weeks), Spring **8"/2 Gallon**, 3-4 (ppp), 2-4 (weeks), Spring **10" Pot or HB/3 Gallon**, 4-5 (ppp), 4-6 (weeks), Spring **12" Pot or HB/5 Gallon**, 5-6 (ppp), 4-6 (weeks), Spring	Can be directly sown into final container. To achieve faster production with good foliage colour, SimplySalad can be grown at moderate to warm temperatures (55 to 70°F/13 to 21°C), and then finished at 45 to 55°F (7 to 13°C) for 3 to 5 days. Coloured varieties develop pigment very quickly at cooler temperatures.
	4"/4.5"/Quart, 1 (ppp), 2-4 (weeks), Spring **8"/2 Gallon**, 3-4 (ppp), 2-4 (weeks), Spring **10" Pot or HB/3 Gallon**, 4-5 (ppp), 4-6 (weeks), Spring **12" Pot or HB/5 Gallon**, 5-6 (ppp), 4-6 (weeks), Spring	Can be directly sown into final container. To achieve faster production with good foliage colour, SimplySalad can be grown at moderate to warm temperatures (55 to 70°F/13 to 21°C), and then finished at 45 to 55°F (7 to 13°C) for 3 to 5 days. Coloured varieties develop pigment very quickly at cooler temperatures.
	Cell Pack, 1-2 (ppp), 2-3 (weeks), Spring **4"/4.5"/Quart**, 1-2 (ppp), 2-3 (weeks), Spring **Field grown**, 1-2 (ppp), 14-15 (weeks), Spring	Direct-sow into final container. Performs best when grown in-ground.
	Cell Pack, 1-2 (ppp), 2-3 (weeks), Spring **4"/4.5"/Quart**, 1-2 (ppp), 2-3 (weeks), Spring **Field grown**, 1 (ppp), 14-15 (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**, 1-2 (ppp), 2-3 (weeks), Spring **Field grown**, 1 (ppp), 7-8 (weeks), Spring	Direct-sow into final container. Performs best when grown in-ground.

CLASS/SERIES	RECOMMENDED PLUG SIZE	GROWING ON TEMPERATURE (DAYS/NIGHTS)	TARGET MEDIA PH/EC	
SQUASH *Cucurbita moschata* **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 *Cucurbita pepo* **Lemon Sun F$_1$**	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 *Fragaria x ananassa* **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	
TOMATO *Solanum lycopersicum* **Artemis F$_1$**	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 *Solanum lycopersicum* **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 *Solanum lycopersicum* **Chocolate Sprinkles F$_1$**	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 *Solanum lycopersicum* **Heirloom Marriage™ Big Brandy F$_1$**	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 *Solanum lycopersicum* **Heirloom Marriage™ Cherokee Carbon F$_1$**	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 *Solanum lycopersicum* **Heirloom Marriage™ Genuwine F$_1$**	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 *Solanum lycopersicum* **Heirloom Marriage™ Jersey Boy F$_1$**	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 *Solanum lycopersicum* **Heirloom Marriage™ Marzinera F$_1$**	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 *Solanum lycopersicum* **Heirloom Marriage™ Perfect Flame F$_1$**	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 *Solanum lycopersicum* **Helix F$_1$**	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 *Solanum lycopersicum* **Homeslice F$_1$**	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 *Solanum lycopersicum* **Little Bing F$_1$**	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 *Solanum lycopersicum* **Little Napoli F$_1$**	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, 1-2 (ppp), 2-3 (weeks), Spring **4"/4.5"/Quart**, 1-2 (ppp), 2-3 (weeks), Spring **Field grown**, 1 (ppp), 15-16 (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**, 1-2 (ppp), 2-3 (weeks), Spring **Field grown**, 1 (ppp), 6-7 (weeks), Spring	Direct-sow into final container. Performs best when grown in-ground.
	Cell Pack, 1 (ppp), 6-8 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 8-10 (weeks), Spring **8"/2 Gallon**, 3-4 (ppp), 10-12 (weeks), Spring	Susceptible to mildew.
	Cell Pack, 1 (ppp), 2-4 (weeks), Spring **4"/4.5"/Quart**, 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**, 1 (ppp), 2-4 (weeks), Spring **5"/6"/1 Gallon**, 1 (ppp), 4-6 (weeks), Spring	Indeterminate variety. Performs best when grown in-ground and with support.
	Cell Pack, 1 (ppp), 2-4 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 2-4 (weeks), Spring **5"/6"/1 Gallon**, 1 (ppp), 4-6 (weeks), Spring	Indeterminate variety. Performs best when grown in-ground and with support.
	Cell Pack, 1 (ppp), 2-4 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 2-4 (weeks), Spring **5"/6"/1 Gallon**, 1 (ppp), 4-6 (weeks), Spring	Indeterminate variety. Performs best when grown in-ground and with support.
	Cell Pack, 1 (ppp), 2-4 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 2-4 (weeks), Spring **5"/6"/1 Gallon**, 1 (ppp), 4-6 (weeks), Spring	Indeterminate variety. Performs best when grown in-ground and with support.
	Cell Pack, 1 (ppp), 2-4 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 2-4 (weeks), Spring **5"/6"/1 Gallon**, 1 (ppp), 4-6 (weeks), Spring	Indeterminate variety. Performs best when grown in-ground and with support.
	Cell Pack, 1 (ppp), 2-4 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 2-4 (weeks), Spring **5"/6"/1 Gallon**, 1 (ppp), 4-6 (weeks), Spring	Indeterminate variety. Performs best when grown in-ground and with support.
	Cell Pack, 1 (ppp), 2-4 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 2-4 (weeks), Spring **5"/6"/1 Gallon**, 1 (ppp), 4-6 (weeks), Spring	Indeterminate variety. Performs best when grown in-ground and with support.
	Cell Pack, 1 (ppp), 2-4 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 2-4 (weeks), Spring **5"/6"/1 Gallon**, 1 (ppp), 4-6 (weeks), Spring	Indeterminate variety. Performs best when grown in-ground and with support.
	Cell Pack, 1 (ppp), 2-4 (weeks), Spring **4"/4.5"/Quart**, 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**, 1 (ppp), 2-4 (weeks), Spring **5"/6"/1 Gallon**, 1 (ppp), 4-6 (weeks), Spring	Determinate variety. Performs well in a patio planter or in-ground. Best grown with support.
	Cell Pack, 1 (ppp), 2-4 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 2-4 (weeks), Spring **5"/6"/1 Gallon**, 1 (ppp), 4-6 (weeks), Spring **12" Pot or HB/5 Gallon**, 1 (ppp), 6-8 (weeks), Late Spring	Compact, determinate variety. Excellent performance in a patio planter, with or without support.
	Cell Pack, 1 (ppp), 2-4 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 2-4 (weeks), Spring **5"/6"/1 Gallon**, 1 (ppp), 4-6 (weeks), Spring **12" Pot or HB/5 Gallon**, 1 (ppp), 6-8 (weeks), Late Spring	Compact, determinate variety. Excellent performance in a patio planter, with or without support.

CLASS/SERIES	RECOMMENDED PLUG SIZE	GROWING ON TEMPERATURE (DAYS/NIGHTS)	TARGET MEDIA PH/EC	
TOMATO *Solanum lycopersicum* **Little Sicily F$_1$**	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 *Solanum lycopersicum* **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 *Solanum lycopersicum* **Midnight Snack F$_1$**	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 *Solanum lycopersicum* **Orange Zinger F$_1$**	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 *Solanum lycopersicum* **Stellar F$_1$**	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 *Solanum lycopersicum* **Sugar Rush F$_1$**	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 *Solanum lycopersicum* **Sunrise Sauce F$_1$**	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 *Solanum lycopersicum* **Tidy Rose F$_1$**	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 *Solanum lycopersicum* **Tidy Treats F$_1$**	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 *Solanum lycopersicum* **Topsy Tom F$_1$**	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 *Solanum lycopersicum* **Tumbler F$_1$**	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**, 1 (ppp), 2-4 (weeks), Spring **5"/6"/1 Gallon**, 1 (ppp), 4-6 (weeks), Spring **12" Pot or HB/5 Gallon**, 1 (ppp), 6-8 (weeks), Late Spring	Compact, determinate variety. Excellent performance in a patio planter, with or without support.
	Cell Pack, 1 (ppp), 2-4 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 2-4 (weeks), Spring **5"/6"/1 Gallon**, 1 (ppp), 4-6 (weeks), Spring	Compact, determinate variety. Performs best in small containers.
	Cell Pack, 1 (ppp), 2-4 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 2-4 (weeks), Spring **5"/6"/1 Gallon**, 1 (ppp), 4-6 (weeks), Spring	Indeterminate variety. Performs best when grown in-ground and with support.
	Cell Pack, 1 (ppp), 2-4 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 2-4 (weeks), Spring **5"/6"/1 Gallon**, 1 (ppp), 4-6 (weeks), Spring	Indeterminate variety. Performs best when grown in-ground and with support.
	Cell Pack, 1 (ppp), 2-4 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 2-4 (weeks), Spring **5"/6"/1 Gallon**, 1 (ppp), 4-6 (weeks), Spring	Determinate variety. Performs best when grown in-ground and with support.
	Cell Pack, 1 (ppp), 2-4 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 2-4 (weeks), Spring **5"/6"/1 Gallon**, 1 (ppp), 4-6 (weeks), Spring	Indeterminate variety. Performs best when grown in-ground and with support.
	Cell Pack, 1 (ppp), 2-4 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 2-4 (weeks), Spring **5"/6"/1 Gallon**, 1 (ppp), 4-6 (weeks), Spring	Determinate variety. Performs best when grown in-ground and with support.
	Cell Pack, 1 (ppp), 2-4 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 2-4 (weeks), Spring **5"/6"/1 Gallon**, 1 (ppp), 4-6 (weeks), Spring **14" Pot or HB/7 Gallon**, 1 (ppp), 6-8 (weeks), Late Spring	Compact, indeterminate variety. Performs well in a patio planter or in-ground and with support.
	Cell Pack, 1 (ppp), 2-4 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 2-4 (weeks), Spring **5"/6"/1 Gallon**, 1 (ppp), 4-6 (weeks), Spring **14" Pot or HB/7 Gallon**, 1 (ppp), 6-8 (weeks), Late Spring	Compact, indeterminate variety. Performs well in a patio planter or in-ground and with support.
	Cell Pack, 1 (ppp), 2-4 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 2-4 (weeks), Spring **5"/6"/1 Gallon**, 1 (ppp), 4-6 (weeks), Spring **12" Pot or HB/5 Gallon**, 1 (ppp), 6-8 (weeks), Late Spring	Superior variety for hanging baskets and patio planters. Performs well when grown upside-down.
	Cell Pack, 1 (ppp), 2-4 (weeks), Spring **4"/4.5"/Quart**, 1 (ppp), 2-4 (weeks), Spring **5"/6"/1 Gallon**, 1 (ppp), 4-6 (weeks), Spring **12" Pot or HB/5 Gallon**, 1 (ppp), 6-8 (weeks), Late Spring	Superior variety for hanging baskets and patio planters. Cascading habit. Performs well when grown without support.

PROTECTION INFORMATION

U.S. UTILITY PATENTS

US 10,212,908
Vinca Titan™ Dark Red
Vinca Titan™ Really Red

US 10,285,362
Impatiens Beacon® Bright Red
Impatiens Beacon® Coral
Impatiens Beacon® Orange
Impatiens Beacon® Red White Mixture
Impatiens Beacon® Salmon
Impatiens Beacon® Select Mixture
Impatiens Beacon® Violet Shades
Impatiens Beacon® White

US 7,087,819
Ornamental Pepper Chilly Chili
Ornamental Pepper Medusa

US 7,393,995
Ornamental Pepper Chilly Chili
Ornamental Pepper Medusa
Ornamental Pepper Sangria

US 7,642,436
Fuseables® Petunia Blueberry Lime Jam
Fuseables® Petunia Lime Coral
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 7,696,416
Ornamental Pepper Sangria

US 7,915,504
Alyssum Clear Crystal® Lavender Shades
Alyssum Clear Crystal® Mixture
Alyssum Clear Crystal® Purple Shades
Alyssum Clear Crystal® White

US 7,982,110
Echinacea Artisan™ Collection Red Ombre
Echinacea Artisan™ Collection Soft Orange
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™ Mixture
French Marigold Hot Pak™ Yellow

US 9,326,466
French Marigold Hot Pak™ Mixture
French Marigold Hot Pak™ Spry

US 9,326,467
French Marigold Hot Pak™ Mixture
French Marigold Hot Pak™ Orange

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™ Mixture
Vinca Valiant™ Punch

US 9,451,752
Vinca Valiant™ Lilac
Vinca Valiant™ Mixture

U.S. UTILITY PATENTS APPLIED FOR

French Marigold Fireball
French Marigold Strawberry Blonde
Impatiens Beacon® Bright Red
Impatiens Beacon® Coral
Impatiens Beacon® Orange
Impatiens Beacon® Red White Mixture
Impatiens Beacon® Salmon
Impatiens Beacon® Select Mixture
Impatiens Beacon® Violet Shades
Impatiens Beacon® White
Pentas Glitterati™ Purple Star
Pentas Glitterati™ Red Star
Vinca Valiant™ Apricot Improved
Vinca Valiant™ Magenta

U.S. PLANT PATENTS

PP 26,516
Calibrachoa Kabloom™ Yellow

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
Erysimum Citrona® Orange - 200600167
Erysimum Citrona® Yellow - 200600168
French Marigold Bonanza™ Bolero - 201800074
Helenium Dakota Gold - 200600009
Lobelia Regatta Lilac Splash - 200600188
Matthiola Katz Ruby - 201200438
Myosotis Mon Amie Blue - 200800070
Ornamental Pepper Black Pearl - 200500020
Ornamental Pepper Medusa - 200000140
Vinca Jams 'N Jellies™ Blackberry - 201100526
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 Apricot - 9800181
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™ American Pie Mixture - 200600190
Zinnia Double Zahara™ Cherry - 201600027
Zinnia Double Zahara™ Fire - 201600032
Zinnia Double Zahara™ Raspberry Ripple - 201800173
Zinnia Zahara® Cherry - 201600029
Zinnia Zahara® Fire - 201000090
Zinnia Zahara® Raspberry - 201500215
Zinnia Zahara® Red - 201600030
Zinnia Zahara® White - 201400297
Zinnia Zahara® Yellow - 201500214
Zinnia Zahara® XL Pink - 201200482
Zinnia Zahara® XL White - 201200485
Zinnia Zahara® XL Yellow - 201200483

U.S. PLANT VARIETY PROTECTIONS APPLIED FOR

Cuphea Pink Shimmer
French Marigold Bonanza™ Deep Orange
French Marigold Flamenco
Ornamental Oregano Kirigami
Vinca Tattoo™ American Pie Mixture
Vinca Tattoo™ Black Cherry
Vinca Tattoo™ Blueberry
Vinca Tattoo™ Papaya
Vinca Tattoo™ Raspberry
Vinca Tattoo™ Tangerine
Zinnia Double Zahara™ Salmon
Zinnia Double Zahara™ Yellow Improved

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 Lavance Deep Purple - 48822
Leycesteria Jealousy - 37273

EUROPEAN COMMUNITY PLANT BREEDER'S RIGHTS APPLIED FOR

Lavandula Avignon Early Blue
Lavandula Blue Spear

EUROPEAN COMMUNITY UTILITY PATENTS APPLIED FOR

French Marigold Fireball
French Marigold Strawberry Blonde
Fuseables® Petunia Blueberry Lime Jam
Fuseables® Petunia Lime Coral
Impatiens Beacon® Bright Red
Impatiens Beacon® Coral
Impatiens Beacon® Orange
Impatiens Beacon® Red White Mixture
Impatiens Beacon® Salmon
Impatiens Beacon® Select Mixture
Impatiens Beacon® Violet Shades
Impatiens Beacon® White
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® Red White Mixture
Impatiens Beacon® Salmon
Impatiens Beacon® Select Mixture
Impatiens Beacon® Violet Shades
Impatiens Beacon® White

INTERNATIONAL PCT

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Impatiens Beacon® Violet Shades
Impatiens Beacon® White

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