Cultural Information
### Cultural Information for Annuals

<table>
<thead>
<tr>
<th>Vigor</th>
<th>pH/ECC</th>
<th>Rooting Out Temperature</th>
<th>Growing Temperature</th>
<th>Holding Temperature</th>
<th>Water Requirements</th>
<th>Planting and Timing</th>
<th>Finish Times in Weeks</th>
<th>Spring Outdoor Finish</th>
</tr>
</thead>
<tbody>
<tr>
<td>CULTURE</td>
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</tr>
</tbody>
</table>

#### ARTIST® Apparition
- Vigor: 2
- pH/ECC: 5.8 - 6.2 / 6 - 7.5
- Temperature: 65°F - 72°F (18°C - 22°C)
- Moderate watering: Early Spring through Summer
- Flower: Standard Plants Per Container
- Last to go outside: Last 4-6 weeks

#### ANGELACE® Angelina
- Vigor: 3
- pH/ECC: 5.8 - 6.2 / 6 - 7.5
- Temperature: 65°F - 72°F (18°C - 22°C)
- Moderate watering: Spring through Summer
- Flower: Standard Plants Per Container
- Last to go outside: Last 4-6 weeks

#### BUTTERFLY Argentea
- Vigor: 3
- pH/ECC: 5.8 - 6.2 / 6 - 7.5
- Temperature: 65°F - 72°F (18°C - 22°C)
- Moderate watering: Spring through Fall
- Flower: Standard Plants Per Container
- Last to go outside: Last 4-6 weeks

#### DAHLIGHTFUL®
- Vigor: 4
- pH/ECC: 6.0 - 6.5 / 6 - 7.5
- Temperature: 65°F - 72°F (18°C - 22°C)
- Moderate watering: Spring through Fall
- Flower: Standard Plants Per Container
- Last to go outside: Last 4-6 weeks

#### SUREFIRE®
- Vigor: 4
- pH/ECC: 5.8 - 6.2 / 6 - 7.5
- Temperature: 65°F - 72°F (18°C - 22°C)
- Moderate watering: Spring through Fall
- Flower: Standard Plants Per Container
- Last to go outside: Last 4-6 weeks

#### ENDLESS® Breeze
- Vigor: 2
- pH/ECC: 6.5 - 7.5 / 6 - 7.5
- Temperature: 70°F - 80°F (21°C - 27°C)
- Moderate watering: Late Spring through Summer
- Flower: Standard Plants Per Container
- Last to go outside: Last 4-6 weeks

#### LADY GODIVA®
- Vigor: 3
- pH/ECC: 5.8 - 6.2 / 6 - 7.5
- Temperature: 65°F - 72°F (18°C - 22°C)
- Moderate watering: Spring through Summer
- Flower: Standard Plants Per Container
- Last to go outside: Last 4-6 weeks

#### TOUCAN®
- Vigor: 4
- pH/ECC: 6.2 - 7.0 / 6 - 7.0
- Temperature: 75°F - 80°F (24°C - 27°C)
- Moderate watering: Late Spring through Summer
- Flower: Standard Plants Per Container
- Last to go outside: Last 4-6 weeks

#### PEQUETA® and SERÉNTIA®
- Vigor: 2
- pH/ECC: 5.8 - 6.2 / 6 - 7.5
- Temperature: 65°F - 72°F (18°C - 22°C)
- Moderate watering: Spring through Summer
- Flower: Standard Plants Per Container
- Last to go outside: Last 4-6 weeks

### Cultural Information for Annuals

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<tr>
<td>FAMOUS®</td>
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</tbody>
</table>

#### ERFER®
- Vigor: 3
- pH/ECC: 6.5 - 7.0 / 6 - 7.0
- Temperature: 65°F - 72°F (18°C - 22°C)
- Moderate watering: Spring through Fall
- Flower: Standard Plants Per Container
- Last to go outside: Last 4-6 weeks

#### ARCTIUS®
- Vigor: 3
- pH/ECC: 6.5 - 7.0 / 6 - 7.0
- Temperature: 65°F - 72°F (18°C - 22°C)
- Moderate watering: Late Spring through Summer
- Flower: Standard Plants Per Container
- Last to go outside: Last 4-6 weeks

#### MYSTIC®
- Vigor: 3
- pH/ECC: 6.5 - 7.0 / 6 - 7.0
- Temperature: 65°F - 72°F (18°C - 22°C)
- Moderate watering: Spring through Fall
- Flower: Standard Plants Per Container
- Last to go outside: Last 4-6 weeks

#### STRATOSPHERE® and KARALEE®
- Vigor: 3
- pH/ECC: 6.5 - 7.0 / 6 - 7.0
- Temperature: 65°F - 72°F (18°C - 22°C)
- Moderate watering: Spring through Fall
- Flower: Standard Plants Per Container
- Last to go outside: Last 4-6 weeks

#### GRACEFUL®
- Vigor: 3
- pH/ECC: 5.8 - 6.0 / 6 - 7.0
- Temperature: 65°F - 72°F (18°C - 22°C)
- Moderate watering: Spring through Fall
- Flower: Standard Plants Per Container
- Last to go outside: Last 4-6 weeks

#### SCIROCCO®
- Vigor: 4
- pH/ECC: 6.0 - 6.5 / 6 - 7.0
- Temperature: 65°F - 72°F (18°C - 22°C)
- Moderate watering: Spring through Fall
- Flower: Standard Plants Per Container
- Last to go outside: Last 4-6 weeks

#### MISTRESS®
- Vigor: 3
- pH/ECC: 6.5 - 7.0 / 6 - 7.0
- Temperature: 65°F - 72°F (18°C - 22°C)
- Moderate watering: Spring through Fall
- Flower: Standard Plants Per Container
- Last to go outside: Last 4-6 weeks

#### GRACEFUL®
- Vigor: 3
- pH/ECC: 6.5 - 7.0 / 6 - 7.0
- Temperature: 65°F - 72°F (18°C - 22°C)
- Moderate watering: Spring through Fall
- Flower: Standard Plants Per Container
- Last to go outside: Last 4-6 weeks

#### HIPPO®
- Vigor: 2
- pH/ECC: 5.8 - 6.0 / 6 - 7.0
- Temperature: 65°F - 72°F (18°C - 22°C)
- Moderate watering: Spring through Fall
- Flower: Standard Plants Per Container
- Last to go outside: Last 4-6 weeks

#### GYPSY®
- Vigor: 3
- pH/ECC: 6.5 - 7.0 / 6 - 7.0
- Temperature: 65°F - 72°F (18°C - 22°C)
- Moderate watering: Spring through Fall
- Flower: Standard Plants Per Container
- Last to go outside: Last 4-6 weeks

#### PENELOPE®
- Vigor: 3
- pH/ECC: 6.5 - 7.0 / 6 - 7.0
- Temperature: 65°F - 72°F (18°C - 22°C)
- Moderate watering: Spring through Fall
- Flower: Standard Plants Per Container
- Last to go outside: Last 4-6 weeks

#### GRACEFUL®
- Vigor: 3
- pH/ECC: 6.5 - 7.0 / 6 - 7.0
- Temperature: 65°F - 72°F (18°C - 22°C)
- Moderate watering: Spring through Fall
- Flower: Standard Plants Per Container
- Last to go outside: Last 4-6 weeks

#### HYPNOTIC®
- Vigor: 2
- pH/ECC: 5.8 - 6.0 / 6 - 7.0
- Temperature: 65°F - 72°F (18°C - 22°C)
- Moderate watering: Spring through Fall
- Flower: Standard Plants Per Container
- Last to go outside: Last 4-6 weeks

#### CARLISLE®
- Vigor: 3
- pH/ECC: 6.5 - 7.0 / 6 - 7.0
- Temperature: 65°F - 72°F (18°C - 22°C)
- Moderate watering: Spring through Fall
- Flower: Standard Plants Per Container
- Last to go outside: Last 4-6 weeks

#### PEARL®
- Vigor: 4
- pH/ECC: 6.5 - 7.0 / 6 - 7.0
- Temperature: 65°F - 72°F (18°C - 22°C)
- Moderate watering: Spring through Fall
- Flower: Standard Plants Per Container
- Last to go outside: Last 4-6 weeks
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<tr>
<td>ROCKAPULCO® Impatiens</td>
<td>Vigor 2</td>
<td>5.8 - 6.2 / 5.0</td>
<td>68-72°F (19-22°C)</td>
<td>65-72°F (18-24°C)</td>
<td>50-60°F (10-18°C)</td>
<td>Moderate to Cool</td>
<td>Early Spring Finish. Standard Plants Per Container.</td>
<td>For 4.5&quot; - 6&quot; pots; 8&quot; to 10&quot;, 8-10</td>
<td>Do not finish outside</td>
</tr>
<tr>
<td>ILLUSION® and Sweet Caroline®</td>
<td>Vigor 3</td>
<td>6.0 - 6.4 / 4.0</td>
<td>65-72°F (18-22°C)</td>
<td>50-80°F (10-16°C)</td>
<td>Moderate to Cool</td>
<td>Early Spring Finish. Standard Plants Per Container.</td>
<td>For 4.5&quot; - 6&quot; pots; 8&quot; to 10&quot;, 8-10</td>
<td>Do not move outside until danger of frost is past</td>
<td></td>
</tr>
<tr>
<td>BITYS® Blue’s</td>
<td>Vigor 2</td>
<td>5.8 - 6.2 / 4.0</td>
<td>65-72°F (18-22°C)</td>
<td>50-80°F (10-16°C)</td>
<td>Moderate to Cool</td>
<td>Early Spring Finish. Standard Plants Per Container.</td>
<td>For 4.5&quot; - 6&quot; pots; 8&quot; to 10&quot;, 8-10</td>
<td>First to go outside</td>
<td></td>
</tr>
<tr>
<td>PINK CHAUBIS® Emotion</td>
<td>Vigor 3</td>
<td>6.0 - 6.5 / 5.0</td>
<td>65-72°F (18-22°C)</td>
<td>50-80°F (10-16°C)</td>
<td>Moderate to Cool</td>
<td>Early Spring Finish. Standard Plants Per Container.</td>
<td>For 4.5&quot; - 6&quot; pots; 8&quot; to 10&quot;, 8-10</td>
<td>First to go outside</td>
<td></td>
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<tr>
<td>LUCIOUS® BERRY BLEND®</td>
<td>Vigor 4</td>
<td>5.8 - 6.2 / 5.0</td>
<td>65-72°F (18-22°C)</td>
<td>50-80°F (10-16°C)</td>
<td>Moderate to Cool</td>
<td>Early Spring Finish. Standard Plants Per Container.</td>
<td>For 4.5&quot; - 6&quot; pots; 8&quot; to 10&quot;, 8-10</td>
<td>Do not finish outside</td>
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<tr>
<td>LAGUNA® Lobelia</td>
<td>Vigor 2</td>
<td>5.8 - 6.2 / 5.0</td>
<td>65-72°F (18-22°C)</td>
<td>45-50°F (7-10°C)</td>
<td>Moderate to Cool</td>
<td>Early Spring Finish. Standard Plants Per Container.</td>
<td>For 4.5&quot; - 6&quot; pots; 8&quot; to 10&quot;, 8-10</td>
<td>Second to go outside</td>
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<tr>
<td>BLUSHING PRINCESS® Dark Knight® Snow Princess® Frugis Knight® White Knight® Lebanon</td>
<td>Vigor 3</td>
<td>6.0 - 6.5 / 5.0</td>
<td>65-72°F (18-22°C)</td>
<td>50-80°F (10-16°C)</td>
<td>Moderate to Cool</td>
<td>Early Spring Finish. Standard Plants Per Container.</td>
<td>For 4.5&quot; - 6&quot; pots; 8&quot; to 10&quot;, 8-10</td>
<td>First to go outside</td>
<td></td>
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<tr>
<td>GOLDILOX® Maculata</td>
<td>Vigor 2</td>
<td>5.8 - 6.2 / 5.0</td>
<td>65-72°F (18-22°C)</td>
<td>70-75°F (21-24°C)</td>
<td>Moderate to Cool</td>
<td>Early Spring Finish. Standard Plants Per Container.</td>
<td>For 4.5&quot; - 6&quot; pots; 8&quot; to 10&quot;, 8-10</td>
<td>Do not finish outside</td>
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<tr>
<td>SUNSATIA® Amaranth</td>
<td>Vigor 2</td>
<td>5.5 - 5.8 / 5.0</td>
<td>65-72°F (18-22°C)</td>
<td>50-80°F (10-16°C)</td>
<td>Dry to Moderate</td>
<td>Early Spring Finish. Standard Plants Per Container.</td>
<td>For 4.5&quot; - 6&quot; pots; 8&quot; to 10&quot;, 8-10</td>
<td>Second to go outside</td>
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<tr>
<td>INNOCENCE® Amaranth Franklin</td>
<td>Vigor 2</td>
<td>5.5 - 5.8 / 5.0</td>
<td>65-72°F (18-22°C)</td>
<td>50-80°F (10-16°C)</td>
<td>Dry to Moderate</td>
<td>Early Spring Finish. Standard Plants Per Container.</td>
<td>For 4.5&quot; - 6&quot; pots; 8&quot; to 10&quot;, 8-10</td>
<td>First to go outside</td>
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<tr>
<td>INFINITY® New Guinea Impatiens</td>
<td>Vigor 1</td>
<td>4.0-6.5 / 2-4</td>
<td>65-72°F (18-24°C)</td>
<td>45-60°F (7-12°C)</td>
<td>Moderate to Cool</td>
<td>Early Spring Finish. Standard Plants Per Container.</td>
<td>For 4.5&quot; - 6&quot; pots; 8&quot; to 10&quot;, 8-10</td>
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<tbody>
<tr>
<td>SOPRANDO® and BRIGHT LIGHTS™ Outperimers</td>
<td>Vigor 2</td>
<td>5.8 - 6.2 / 6-9</td>
<td>65-72°F (18-22°C)</td>
<td>65-68°F (18-20°C)</td>
<td>48-60°F (10-17°C)</td>
<td>Moderate to Cool</td>
<td>Early Spring Finish. Standard Plants Per Container.</td>
<td>For 4.5&quot; - 6&quot; pots; 8&quot; to 10&quot;, 8-10</td>
<td>Last to go outside</td>
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<tr>
<td>SYMPHONY Outperimers</td>
<td>Vigor 2</td>
<td>5.8 - 6.2 / 6-9</td>
<td>65-72°F (18-22°C)</td>
<td>50-80°F (10-16°C)</td>
<td>Dry to Moderate</td>
<td>Early Spring Finish. Standard Plants Per Container.</td>
<td>For 4.5&quot; - 6&quot; pots; 8&quot; to 10&quot;, 8-10</td>
<td>Last to go outside</td>
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<tr>
<td>CHARMED™ Wine Chalks supplex</td>
<td>Vigor 1</td>
<td>5.8 - 6.2 / 6-9</td>
<td>65-72°F (18-22°C)</td>
<td>50-80°F (10-16°C)</td>
<td>Moderate to Cool</td>
<td>Early Spring Finish. Standard Plants Per Container.</td>
<td>For 4.5&quot; - 6&quot; pots; 8&quot; to 10&quot;, 8-10</td>
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<tr>
<td>BILLUX® and TIMELIGHT® Pelargonium</td>
<td>Vigor 3</td>
<td>6.0 - 6.5 / 1.5</td>
<td>65-72°F (18-22°C)</td>
<td>50-80°F (10-16°C)</td>
<td>Moderate to Cool</td>
<td>Early Spring Finish. Standard Plants Per Container.</td>
<td>For 4.5&quot; - 6&quot; pots; 8&quot; to 10&quot;, 8-10</td>
<td>Do not move outside until danger of frost is past</td>
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<tr>
<td>SUPERTUNIA® except Grand Pink, and Vitta Pervana</td>
<td>Vigor 3</td>
<td>5.5 - 5.8 / 2-3</td>
<td>65-72°F (18-22°C)</td>
<td>50-80°F (10-16°C)</td>
<td>Moderate to Cool</td>
<td>Early Spring Finish. Standard Plants Per Container.</td>
<td>For 4.5&quot; - 6&quot; pots; 8&quot; to 10&quot;, 8-10</td>
<td>First to go outside</td>
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<tr>
<td>INTENSE® Petunia</td>
<td>Vigor 2</td>
<td>5.8 - 6.2 / 2-2</td>
<td>65-72°F (18-22°C)</td>
<td>50-80°F (10-16°C)</td>
<td>Moderate to Cool</td>
<td>Early Spring Finish. Standard Plants Per Container.</td>
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<tr>
<td>MIJAVE® Portulaca</td>
<td>Vigor 3</td>
<td>6.0 - 6.5 / 5</td>
<td>65-72°F (18-22°C)</td>
<td>50-80°F (10-16°C)</td>
<td>Moderate to Cool</td>
<td>Early Spring Finish. Standard Plants Per Container.</td>
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<td>RICKIN® Salvia</td>
<td>Vigor 4</td>
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<td>50-80°F (10-16°C)</td>
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<tr>
<td>Sunbe® Sanvitalia</td>
<td>Vigor 2</td>
<td>5.8 - 6.2 / 6-5</td>
<td>65-72°F (18-22°C)</td>
<td>50-80°F (10-16°C)</td>
<td>Dry to Moderate</td>
<td>Early Spring Finish. Standard Plants Per Container.</td>
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<td>Do not finish outside</td>
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<tr>
<td>WHIRLWIND®</td>
<td>Scabiosa</td>
<td>Vigor 3</td>
<td>5.5 - 5.8 / 5-8</td>
<td>65-72°F (18-22°C)</td>
<td>50-80°F (10-16°C)</td>
<td>Moderate to Cool</td>
<td>Early Spring Finish. Standard Plants Per Container.</td>
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<tr>
<td>LEMON CORAL® Sedum</td>
<td>Vigor 2</td>
<td>5.8 - 6.2 / 5</td>
<td>65-72°F (18-22°C)</td>
<td>50-80°F (10-16°C)</td>
<td>Dry to Moderate</td>
<td>Early Spring Finish. Standard Plants Per Container.</td>
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<tr>
<td>COLOBLAZER® Dark Star Royale</td>
<td>Vigor 2</td>
<td>5.0 - 5.5 / 0-3</td>
<td>65-72°F (18-22°C)</td>
<td>50-80°F (10-16°C)</td>
<td>Moderate to High</td>
<td>Early Spring Finish. Standard Plants Per Container.</td>
<td>For 4.5&quot; - 6&quot; pots; 8&quot; to 10&quot;, 8-10</td>
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### Cultural Information for Proven Harvest®

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| **BERKE TREASURE®** | Vigor 2 | 5.5-6 / 0.8-1.0 | 65-72°F (18-22°C) | 65-72°F (18-22°C) | 60-68°F (16-10°C) | outdoors | Moderate to Moist | Spring through Summer Finish, Standard Plants Per Container | For 4.5, 6, 7: 4-8 gal., 7-8; for 10-12, 8-10 | Last to go outside
| **Garden Gem®** | Vigor 4 | 5.6-5.8 / 0.8-1.0 | 65-72°F (18-22°C) | 65-72°F (18-22°C) | 50-60°F (10-16°C) | outdoors | Moderate to Moist | Spring through Summer Finish, Standard Plants Per Container | For 4.5, 6, 7: 4-8 gal., 7-8; for 10-12, 8-10 | Last to go outside
| **AMAZEL®** Basil | Vigor 4 | 6.0-6.5 / 0.8-1.0 | 65-72°F (18-22°C) | 65-72°F (18-22°C) | 65-72°F (18-22°C) | indoors | Moderate to Moist | Spring through Summer Finish, Standard Plants Per Container | For 4.5, 6, 7: 4-8 gal., 7-8; for 10-12, 8-10 | Last to go outside

### Cultural Information for Proven Winners®

|-----------------|-------|-------|-------------------------|---------------------|--------------------|--------------------|--------------------|---------------------|----------------------|
| **BERERED TREASURE®** | Vigor 2 | 5.6-6.5 / 0.8-1.0 | 65-72°F (18-22°C) | 65-72°F (18-22°C) | 60-68°F (16-10°C) | outdoors | Moderate to Moist | Spring through Summer Finish, Standard Plants Per Container | For 4.5, 6, 7: 4-8 gal., 7-8; for 10-12, 8-10 | Last to go outside
| **Garden Gem®** | Vigor 4 | 5.6-5.8 / 0.8-1.0 | 65-72°F (18-22°C) | 65-72°F (18-22°C) | 50-60°F (10-16°C) | outdoors | Moderate to Moist | Spring through Summer Finish, Standard Plants Per Container | For 4.5, 6, 7: 4-8 gal., 7-8; for 10-12, 8-10 | Last to go outside

### Online Cultural Guide

When you have growing questions, you can access our online growing guide for answers. By providing easy, 24/7 access to this information, we save you time — and money — so you can spend it tending to business and building that business, too.

### Groower Culture on provenwinners.com

- **Culture search by variety**
- **Culture groups**
- **New variety culture**
- **Flowering timing charts**
- **Outdoor growing tips**
- **Perennial timing**
Culture Notes and Groups:

pH:
A: pH 5.5-5.8
B: pH 5.6-6.2
C: pH 6.0-6.5

EC:
A: < 6
B: 6-9
C: 1.0-2.0

Well-Balanced Fertilizer
N-P-K: 2:1:1.5 with adequate amounts of micronutrients
Low: 100-150 ppm Constant Liquid Feed
Medium: 150-200 ppm Constant Liquid Feed
High: 200-300 ppm Constant Liquid Feed

Fertilizer Disclaimer:
It is a good practice to clear water (leach) once every 3-4 times you water to lower soluble salt levels in the media. EC should also be monitored using weekly EC measurements.

Rooting Out Temperatures:
The first 10 days of container growth: establishing root system to outside edge of container from the newly planted liner.
65-72°F (18-22°C)

Growing Temperatures:
Once roots are to the edge of the container – growing on the plant and bulking up foliage and flowers.
A: 55-65 ºF (12-18 ºC)
B: 65-72 ºF (18-22 ºC)
C: 70-75 ºF (21-24 ºC)

Night temperatures should be run 5 ºF (-15 ºC) lower than day temperatures.

Holding Temperatures:
(For toning crops and/or for when you have to hold the crop when it is ready to go)
A: 40-50°F (4-10°C) outdoors*
B: 50-60°F (10-16°C)
C: Maintain Growing Temperatures

Light Levels:
High: Full sun crops need very high, bright light
Moderate: Sun to partial shade crops, High to moderate light
Low: Partial to full shade crops, Moderate to low light

* Sometimes this temperature is indoors when prompted not to finish the plants outdoors.

Moisture Regimes:
Transplant:
Water lightly to maintain moisture level within root zone until roots reach the side of the finished container. Once roots are developed to the side of the pot, see finish watering regime.

Finish Watering Regimes:
A: Dry to Moderate: Water thoroughly without over-saturating; keep moist during root development; allow soil surface to dry completely before watering after the crop is rooted to the edge of the pot.
B: Moderate to Moist: Water thoroughly without over-saturating; keep moist but not wet throughout entire growth cycle.
C: Moist to Wet: Water thoroughly and keep moisture constant throughout entire growth cycle.

Standard Plants Per Pot (PPP):
4-5": 1 ppm
6": 1-2 ppm
Gallon: 1-3 ppm
8": 3 ppm
10-12": 3-5 ppm

More cuttings per pot will yield faster finishing times. The higher light and temperatures experienced with summer production will dramatically reduce crop times.

Soil Mix for Container Growing:
Use a high-quality, professional grade soil mix that is adjusted to work with your water quality and growing style to help manage pH and water control.

Use a well-drained, high-quality professional grade soil mix. A peat-lite based soil or equivalent that gives you 60% organic matter and 40% secondary aggregates, such as perlite, rock-wool, coir, and/or bark, will provide proper soil porosity (well-drained soil).

Growth Regulator Disclaimer:
All PGR rates should be trialed by each individual grower before applications are made to entire crop to ensure desired results. All rates are given as a spray unless otherwise stated. Summer production may require higher PGR rates when crops are grown indoors. Proven Winners and its affiliates are not responsible for misapplication or misuse of these products. Check manufacturers’ labels for approved rates and usage recommendations.

Pest Management:
A weekly scouting program is suggested. Monitor for common greenhouse pests. Treat accordingly, using label instructions. Be sure to rotate chemical classes to guard against development of resistance to chemicals.

Disease Management:
Treat with preventative broad spectrum fungical drench one week after transplant. Scout crops regularly (at least once a week) for disease development. Good air circulation, control of humidity, and good sanitation practices are critical. Good sanitation practices include keeping greenhouses clean at all times, eliminating weeds and debris, disinfesting equipment and greenhouses as often as possible, and keeping hose ends off the floor. Good water management practices are critical to healthy plant growth.

Day Neutral:
Ability of plants to flower freely regardless of day-length.

Vernalization:
Crop quality and flower number and presentation for perennial plants often will be improved with a cold treatment.

Spring Outdoor Finish:
Many Proven Winners crops can be finished outdoors under cool temperatures. Finishing under cool temperatures will allow you to expand production area, allows additional spacing inside greenhouse, allows additional turns, and improves quality of the product. Those plants finished outdoors will need additional time to finish. Specific finishing times are difficult to predict due to variability in weather patterns. Outdoor mum production areas are perfect to use as spring cold temperature finishing space.

Before plants are moved outside, they should be acclimated to colder temperatures using holding temperatures stated above.

Ideally, plants should be moved outdoors on an overcast day, with moderate temperatures, little wind, and no severe cold (freezing temperatures) forecasted for the next 24 hours. Often a full moon will mean clear skies, which will allow temperatures to drop more than expected. To maintain proper nutrition after a heavy rain, a light water application with 400-500 ppm N can be used on the already wet plants (this high fertilizer application on dry plants will result in burn).

Plants vary in ability to withstand cold temperature finishing. To help you manage when crops can be placed outdoors, we have split our plant material into 3 groups (Not all crops can be finished outdoors and will be noted as No). In the case of unusually cold temperatures, you should have frost protection measures ready (frost cloth, sprinklers, or ability to move plants under cover).
It is generally too cold for insects and disease to prosper. You should continue to scout for problems, however, chemical control measures probably won’t be needed. Plant growth regulators will not be needed to control growth.

Growers who wish to try this method of finishing plants should trial a small portion of their plant material the first year to gain experience and comfort. Each year will differ and growers need to be prepared to adapt as conditions change.

A: First to go outside – 33-36°F (0-2°C):
These plants can be placed outside the earliest. When temperatures are not forecasted to drop below freezing for the next 10 days you should be able to move these plants outdoors. Should the temperature be forecasted to drop below 26°F (-2°C), protection measures should be taken.

B: Second to go outside – 38-42°F (3-5°C):
This is the second wave of plant material. These plants can be moved outside when odds are that temperatures are much less likely to drop below freezing. Protection measures should be taken for this group when temperatures are forecasted to reach 32°F (0°C).
Average daily temperatures should be higher than when group A material was moved out. Generally, a few weeks after group A is moved out, group B can be moved outside.

C: Last to go outside – 45°F (7°C+)
This is the third wave of plant material. These plants can be moved outside when temperatures are no longer likely to reach freezing. A hard frost will cause damage to this group. If a hard frost is forecasted, protection measures should be implemented.

For questions please call the grower hotlines:
Nordic Nurseries – 604.607.7074
Ed Sokkovich Greenhouses – 905.945.8870

Need help? Give us a call.
We’re totally committed to helping you grow quality crops.