Cultural Information
### Cultural Information for Annuals

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<td><strong>ARTIST®-Agavaria</strong></td>
<td>Vigor 2</td>
<td>pH 6.2 - 6.3</td>
<td>65-72ºF (18-22ºC)</td>
<td>67-72ºF (19-22ºC)</td>
<td>58-68ºF (14-20ºC)</td>
<td>Moderately to Moist</td>
<td>Early Spring through Summer</td>
<td>Finish. Standard Plants Per Container</td>
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<td><strong>ANGELESA®-Angelini</strong></td>
<td>Vigor 3</td>
<td>pH 6.2 - 6.3</td>
<td>65-72ºF (18-22ºC)</td>
<td>75-79ºF (24-26ºC)</td>
<td>68-69ºF (20-21ºC)</td>
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<tr>
<td><strong>BUTTERFLY Argenteoqueen</strong></td>
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<td>pH 6.2 - 6.3</td>
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<td>68-69ºF (20-21ºC)</td>
<td>48-50ºF (9-10ºC)</td>
<td>Moderately to Moist</td>
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<tr>
<td><strong>SILVER BULLET® Artemisia</strong></td>
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<td><strong>PEQUINA and SERÜTRA® License</strong></td>
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**Cultural Information for Annuals**

- **FAIRY DUST®-Pink Cupoleo** Vigor 3
- **VERMILIONARE® Cupoleo** Vigor 3
- **MYSTIC Muses Dável** Vigor 3
- **SILVER FALLS® Díchevra** Vigor 3
- **DIAMOND FROST® DIAMOND SNOW® DIAMOND MOUNTAIN® Everkensie** Vigor 3
- **BLUE MY MIND® Ekelésis** Vigor 2
- **HEAT IT UP!® Galáchra** Vigor 2
- **STRATOSPHERE® and KARALEE® Gaura** Vigor 3
- **TRUFULA® Pink Daphne** Vigor 3
- **GRACEFUL GRASSES® Tuffas Tuffe Canov** Vigor 3
- **GRACEFUL GRASSES® BABY TUFF® KING TUFF PRINCE TUFF® Gypsea** Vigor 4
- **GRACEFUL GRASSES® BLUE MOHAN® Jovinco** Vigor 3
- **GRACEFUL GRASSES® Fireworks® Purple Fountain Grass Sky Rocket** Vigor 4

**VIGOR KEY** - 1 to 4, with 1 representing the slower, smaller growers and 4 representing the quickest, largest growers.

For combinations, choose varieties with the same vigor rating to ensure success.
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<td>Sunbelievable™</td>
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<td>For 4.5-6 pots; 7.8 ft; 10-12</td>
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**Notes:**
- Temperatures are given in Fahrenheit (°F) and Celsius (°C).
- Spring: Temperature ranges from 50-65°F (10-18°C) to 65-70°F (18-21°C).
- Summer: Temperature ranges from 65-70°F (18-21°C) to 70-75°F (21-24°C).
- Fall: Temperature ranges from 50-65°F (10-18°C) to 40-50°F (4-10°C).
- Winter: Temperature ranges from 40-50°F (4-10°C) to 20-30°F (-6-6°C).
- Plants are expected to bloom within 8-10 weeks of transplanting.
- Plants can be grown outdoors or indoors depending on the temperature conditions.
- Water requirements may vary depending on the specific variety and environmental conditions.

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**Cultural Notes:**
- Proper watering is crucial for the growth and health of annuals. Make sure to water them regularly according to their specific needs.
- Fertilize plants regularly to ensure optimal growth.
- Deadheading (removing spent flowers) can extend the blooming period of annuals.
- Choose a site with adequate sunlight for the best performance of annuals.
- Regular pruning and thinning can improve the overall appearance of the plants and prevent overcrowding.

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**Additional Tips:**
- Annuals are best suited for warm climates with plenty of sunlight.
- They require well-draining soil and regular irrigation.
- Propagation can be done through seeds or cuttings.
- Annuals are ideal for quick color and are commonly used in bedding schemes, hanging baskets, and containers.
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<td>65-72°F</td>
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<td>50-66°F</td>
<td>Medium</td>
<td>Spring through</td>
<td>Summer finish,</td>
<td>Standard Plants Per Container</td>
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<td>(18-22°C)</td>
<td>(18-22°C)</td>
<td>(10-18°C)</td>
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**Proven Winners® Annuals**

To produce the highest quality plant material, growers must have detailed crop culture information. In order to help our growers produce the best finished crops, our propagators have developed this user-friendly guide which categorizes plants by their basic cultural needs – pH, growing temperature, and fertilization. The goal is to aide our growers in setting up custom growing environments for plants grouped by their basic needs. Visit provenwinners.com for more detailed cultural information on all Proven Winners varieties.

**Proven Winners® Annuals**

![Proven Winners® Annuals](image)

**Cultural Information and Growing Tips**

In growing code groups, the first letter represents the Growing Temp and the second letter represents the pH.

**Fertilizer rate for all plants listed above is 150-200 Constant Liquid Feed (CLF) with the following exceptions:**

- **75-100 CLF**
  - **100-100 CLF**
  - **150 CLF**
  - **200-300 CLF**
  - **200-300 CLF**
  - **300-400 CLF**
  - **400 CLF**
  - **500 CLF**
  - **600 CLF**
  - **700-750 CLF**
  - **800-850 CLF**
  - **900-950 CLF**
  - **1000 CLF**
  - **1100 CLF**
  - **1200 CLF**
  - **1300 CLF**
  - **1400 CLF**
  - **1500 CLF**
  - **1600 CLF**
  - **1700 CLF**
  - **1800 CLF**
  - **1900 CLF**
  - **2000 CLF**
  - **2100 CLF**
  - **2200 CLF**

**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.

**Grower 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

- **65-72°F (18-22°C)**
  - on the plant and bulking up foliage and flowers.

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)**

Growth Temperatures:

Once roots are to the edge of the container – growing

- **65-72°F (18-22°C)**
  - to full shade crops, high to moderate light.

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
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 fungidal 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, disinfecting 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 a 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.

- **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.
- **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.

**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 Sobotich Greenhouses** – 905.945.8870

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