SAKATA®

Delphinium Candle

Cultural Information for: Delphinium Candle Short-lived Perennial
Common Name: Delphinium
Botanical Name: Delphinium elatum
Seed Count: 10,000-11,350 /ounce 350-400 /gram
Optimum Germination Temperature: 65-68°F / 18-20°C
Optimum Growing Temperature: 59-75°F / 15-24°C
Optimum pH: 5.8 – 6.2
EC – Plug: 0.4 – 0.8 mmhos/cm **(1:2)** / 0.9 – 2.0 **(SME)** / 1.1 - 2.6 **(Pour Thru)**
EC – Finishing: 0.9 – 1.3 mmhos/cm **(1:2)** / 2.1 – 3.5 **(SME)** / 2.7 - 4.6 **(Pour Thru)**

Plug Culture: 6 weeks (288 12 x 24 tray)

Pre-Cooling (21 days) Sow seed into plug trays filled with a well-drained sterile substrate. Cover the seed with medium vermiculite and water the tray with terrazole (etidiazole) to prevent disease problems (damping off). Place the trays in a dark chamber and maintain the substrate temperature at 50ºF/10ºC for 21 days.

Stage 1 (days 1-14) If pre-cooling is not an option, sow the seed and follow the above procedures and maintain the temperature between 65-68ºF/18-20ºC.

NOTE: For both pre-cooling and regular sowing, it is very important to keep the substrate saturated to ensure high germination. One option is to use a capillary mat or wrap the trays or cart with plastic.

Stage 2 (days 15-21) When the seedlings begin to emerge fertilize lightly with 75-100 ppm N from a well-balanced calcium nitrate-based fertilizer. Place in a cool greenhouse with high light, good air movement and a temperature of 59-65ºF/15-18ºC.

Note: High temperatures (excess of 77ºF /25ºC at the plug stage will result in poor quality cut flowers on immature plants. Low temperatures (below 50ºF/10ºC) cause plants to rosette (dormancy stage) which is broken by increasing day length conditions from winter into spring.

Stage 3 (days 22-35) The true leaves are beginning to form. Keep the temperature between 59-65ºF/15-18ºC and provide good air movement to prevent disease. Delphinium is susceptible to both foliar and root diseases (pythium, rhizoctonia and phytopthora), so good sanitation and watering early in the day is best.

Stage 4 (days 36-42) The plugs are now reaching transplant size and have 4-5 true leaves. Delphinium has a tap root system and delaying transplanting will reduce plant and flower quality.

Transplanting: 12 weeks (first harvest)

Bed Preparation: Select a well drained bed in full sun with good drainage. Incorporating organic matter into the bed will improve the soil structure and enhance fertility.

Spacing: Space plants 8 inches/20 cm. apart.

Support: Plant support is needed to keep the plants upright.

Fertilizer and Watering: The use of a well-balanced calcium nitrate-based fertilizer promotes strong and healthy plants. Maintain even moisture and avoid allowing the plants to wilt which damages the root system resulting in poor quality cut flowers.

Temperature: For earliest flowering in greenhouse, (November – January), optimum forcing temperature is 59-75ºF/15-24ºC. For later flowering in greenhouse, (March-June), maintain the temperature between 41-75º F/5-24ºC.

Insects: Aphids, thrips and whiteflies

Disease: Botrytis, crown rot, powdery mildew

Day length: Long day length (>13 hours) will accelerate time to flower and will promote shorter plant height.

Northern Hemisphere Schedule

Treatment	Sow	Plant	First Harvest*
Forcing	Mid-August	Late September	End of December
Semi-Forcing	Mid-October	End of November	End of March
Natural Season *Mild Climate*	Mid-September	End of October	May to June
Natural Season *Cold Climate*	February to March	Mid-March to Mid-April	Mid-June to Mid-July

*****Delphinium Candle will flush every 10-12 weeks if optimum temperature (59-75ºF/15-25ºC) is maintained and the plants receive a minimum of 10 hours of daylight. Higher light levels, longer photoperiod and higher temperature will accelerate flowering time, but also decrease plant height.*

"All information given is intended for general guidance only and may have to be adjusted to meet individual needs. Cultural details are based on North American conditions and Sakata cannot be held responsible for any crop damage related to the information given herein. Application of recommended growth regulators and chemicals are subject to local and state regulations. Always follow manufacturer's label instructions. Testing a few plants prior to treating the entire crop is best."

SAKATA ORNAMENTALS
North America · PO Box 880 · Morgan Hill, CA 95038-0880 · 408 778 7758 · fax 408 778 7768
www.sakataornamentals.com