

## Delphinium Diamonds Blue

(*Delphinium grandiflorum*)

### Germination

#### Media

Use a well-drained, disease-free soilless medium with a pH of 5.8 to 6.2 and a medium initial nutrient charge (EC less than 0.75 mmhos/cm with 1:2 extraction).

#### Sowing

Sow in 288-cell size plug trays. In Europe, seed can be sown in 264-cell trays. Standard sowing uses 1 seed per cell; in Europe, 3 seeds per cell can be used for a fuller product at finish. A medium vermiculite cover is recommended.

**Germination takes approximately 5 to 7 days.**

**Soil temperature:** 65 to 70°F (20 to 21°C)

**Light:** Optional.

**Moisture:** Keep soil wet (level 4) during Stage 1.

**Humidity:** Maintain 95%+ relative humidity (RH) until radicle emergence.

### Plug Production

#### Stage 2

**Soil temperature:** 65 to 68°F (18 to 20°C)

**Light:** Up to 2,500 f.c. (26,900 Lux)

**Moisture:** Reduce soil moisture slightly (level 3) to allow the roots to penetrate into the media.

**Fertilizer:** Apply fertilizer at rate 1 (less than 100 ppm N/less than 0.7 mS/cm EC) from nitrate-form fertilizers with low phosphorous.

#### Stage 3

**Soil temperature:** 65 to 68°F (18 to 20°C)

**Light:** Up to 2,500 f.c. (26,900 Lux)

**Moisture:** Allow media to dry until the surface becomes light brown (level 2) before watering.

**Fertilizer:** Increase fertilizer to rate 2 (100 to 175 ppm N/0.7 to 1.2 mS/cm EC).

**Growth regulators:** Generally not needed during plug production.

#### Stage 4

**Soil temperature:** 60 to 65°F (15 to 18°C)

**Light:** Up to 5,000 f.c. (53,800 Lux) if temperature can be controlled.

**Moisture:** Same as Stage 3.

**Fertilizer:** Same as Stage 3.

### Growing On to Finish

#### Media

Use a well-drained, disease-free soilless medium with a pH of 5.8 to 6.2 and a medium initial nutrient charge.

#### Temperature

After transplant, provide day temperatures of 65 to 70°F (18 to 21°C) and night temperatures of 55 to 63°F (13 to 17°C) for greenhouse production. If the outside temperatures/conditions are optimal/ favorable, then 3 to 4 weeks after greenhouse production the crop can be grown outside under cold frame-type conditions to flower/finish. Optimal outside growing temperatures can be 60 to 70°F (15 to 21°C) days, and nights in low 50s°F (10 to 12°C). Delphiniums can also tolerate lower night temperatures – in the low 40s°F (5s°C). They can flower prematurely under high temperatures, and under cooler temperatures will finish slowly. Under northwestern European conditions: this crop can also be grown at 41 to 70°F (5 to 20°C) temperature ranges. Does very well in a cool greenhouse or poly house with high light levels.

#### Light

No supplemental lighting is required, but keep light levels as high as possible while maintaining optimal temperatures.

Under northwestern European conditions/low light conditions: for early season production, HID lights can improve plant habit and quicken the growth.

#### Irrigation

Avoid both excessive watering and drought. Do not allow the plants to wilt.

#### Fertilizer

Starting 1 week after transplant, apply fertilizer at rate 4 (225 to 300 ppm N/1.5 to 2.0 mS/cm) once a week using predominately a nitrate-form fertilizer with

low phosphorus and high potassium. Maintain the media EC at 1.5 to 2.0 mS/cm and pH at 5.8 to 6.2. For constant fertilizer program, fertilizer at rate 3 (175 to 225 ppm N/1.2 to 1.5 mS/cm) can be applied, while maintaining the above recommended EC and pH ranges.

used in accordance with all regulations.  
void using copper-based fungicides on Alyssum.

### **Growth Regulators**

Apply foliar spray of Bonzi at 20 ppm (5.0 ml/l, 0.4% formulation) once after transplant. This application can be made 4 to 5 weeks after transplant; if necessary, a second application can be made 2 weeks later. Under northwestern European conditions: A Bonzi drench of 2 ppm (0.5ml/l, 0.4% formulation) works well.

### **Pinching**

Pinching is not needed.

### **Container Size**

**1 gallon (18 cm):** 1 to 3 plants per pot

**2 gallon (20 cm):** 3 plants per pot.

(When producing under warm season, can use 3 plants per pot for 1 gallon)

### **Crop Scheduling**

**Sow to transplant:** 6 to 7 weeks (288-cell plug)

**Transplant to finish:** 12 to 15 weeks

It takes more time for cool-season production; however, the quality of the finished product is better under cool conditions.

### **Common Problems**

**Diseases:** Powdery mildew

### **Garden and Landscape Information**

- Diamonds Blue is a first year-flowering perennial to USDA Hardiness Zone 4 to 7.
- Plant in full sun.
- Space plants 12 to 14 in. (30 to 35 cm) apart in well-drained soil.
- Garden height can be 16 to 24 in. (40 to 60 cm) tall and spread can be 10 to 12 in. (25 to 30 cm).

**Note:** Growers should use the information presented here as a starting point. Crop times will vary depending on the climate, location, time of year and greenhouse environmental conditions. Chemical and PGR recommendations are only guidelines. It is the responsibility of the applicator to read and follow all the current label directions for the specific chemical being

