

## Campanula Rapido

(*Campanula carpatica*)

### Germination

Approximate seed count (peletted): 39,200 to 47,600 S./oz. (1,400 to 1,700 S./g)

Key flowering facts:

- First-year-flowering perennial to USDA Hardiness Zone 3 to 9.
- Photoperiod response: obligate long-day plant with critical daylength of 14 hours.
- Vernalization: not required.
- Plug daylength: Keep plug production under less than 13 hours daylength to prevent premature flowering.

### Media

Use a well-drained, disease-free, soilless media with a pH of 5.8 to 6.2 and an EC of 0.75 mmhos/cm.

### Sowing

Sow 4 seeds per cell in 288 or larger plug trays. Do not cover the seeds. Grow at less than 13 hours daylength to keep plants vegetative; spray preventively with fungicide against damping off.

**Stage 1** – Germination takes 7 to 9 days.

**Soil temperature:** 65 to 72°F (18 to 22°C)

**Light:** Light is required.

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

**Humidity:** Maintain 95 to 97% relative humidity (RH) until radicles emerge.

### Plug Production

#### Stage 2

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

**Light:** Can be up to 2,500 f.c. (26,900 Lux).

**Moisture:** Reduce soil moisture slightly (level 3 to 4) to allow the roots to penetrate into the media.

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

#### Stage 3

**Soil temperature:** 60 to 65°F (16 to 18°C)

**Light:** Can be up to 2,500 f.c. (26,900 Lux).

**Moisture:** Remain soil moisture at level 3 to 4.

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

**Growth regulators:** Not needed.

#### Stage 4

**Soil temperature:** 60 to 65°F (16 to 18°C)

**Light:** Up to 5,000 f.c. (54,000 Lux).

**Moisture:** Same as Stage 3.

**Fertilizer:** Same as Stage 3.

### Growing On to Finish

#### Container Size

**4 to 5-in. (10 to 13-cm):** 1 plug per pot

**1 Gallon (17-cm):** 2 to 3 plugs per pot (3 to 4 plugs per pot when grown under daylength longer than 16 hrs)

#### Media

Use a well-drained, disease-free, soilless media with a pH of 5.8 to 6.2 and an EC of 1.0 to 1.2 mmhos/cm.

#### Temperature (optimum)

**Nights:** 50 to 57°F (10 to 14°C)

**Days:** 60 to 65°F (16 to 18°C)

**Note:** Cool night temperature below 50°F (10°C) could cause foliage curling or puckering. Warmer temperature (>68°F/20°C) could reduce plant and flower size.

#### Light

Keep as high as possible while maintaining moderate temperature.

### **Photoperiod**

Rapido F1 is a long day crop. It requires minimum of 14 hours daylength for flowering, until visual bud stage.

Rapido Campanula flower buds can be induced during plug stage under long day conditions, which causes plants to flower too quickly before bulked optimal plant size. Therefore, keeping plug production at less than 13 hours is recommended. Otherwise, it may be necessary to transplant an extra 1 or 2 plugs for larger pot size.

### **Irrigation**

Keep media moisture medium moist (level 3; substrate color is brown to dark brown)

### **Fertilizer**

Rapido F1 generally needs moderate fertilization. Apply fertilizer at rate 2 (125 to 175 ppm N; 1.0 to 1.2 mmhos/cm).

### **Growth Regulators**

In general, not needed when grown under proper advised conditions; but if desired, chlormequat (Cycocel) 750 ppm (6.36 ml/l, 11.8 % formulation or 1.00 ml/l, 75% formulation) could be used; 1 to 2 applications is often sufficient.

Frequent spray (3 to 5 times dependent on temperature) of daminozide (B-Nine, Alar) at 2,000 ppm (2.4 g/l, 85% formulation or 3.1 g/l, 64% formulation) is also effective on plant size control but it may delay flowering about 5 to 7 days.

### **Pinching**

Not needed.

### **Crop Scheduling**

**Sow to transplant (288 cell plug):** 7 to 10 weeks

**Transplant to flower:** 9 to 12 weeks when grown under proper long-day conditions.

**Total crop time:** 15 to 22 weeks

### **Common Problems**

**Insects:** Spider mites, aphids

**Disease:** Botrytis, Pythium, Rhizoctonia

**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 used in accordance with all regulations.

