GrowerFacts

Campanula Campana

(*Campanula medium*)

Germination

Approximate seed count (raw): 102,000 to 136,000 S./oz. (3,600 to 4,800 S./g)
Approximate seed count (pelleted): 105,000 to 122,000 S./oz. (3,700 to 4,300 S./g)

Media
Use a well-drained, disease-free media with a pH of 5.8 to 6.5 and an EC of 0.8 mmhos/cm.

Sowing
Sow 1 seed or pellet per cell in a 288 or larger plug tray. Larger plug size can increase plug time by a week. Do not cover the seed. Use a fungicide after sowing to prevent damping-off.

Photoperiod
Campanula is a qualitative long-day plant. To ensure sufficient vegetative growth and stem length, it is recommended to provide 6 weeks of short day conditions (11 hours) from approximately 2 weeks after sowing.

Germination takes 4 to 5 days

Soil temperature: 68 to 72°F (20 to 22°C)

Light: Campana is a light germinator.

Moisture: Keep soil moist (level 4) in Stage 1.

Humidity: Maintain approximately 98% relative humidity (RH) until radical emerges.

Plug Production

Media
Use a well-drained, disease-free media with a pH of 5.8 to 6.5 and an EC of 0.8 mmhos/cm.

Sowing
Sow 1 seed or pellet per cell in a 288 or larger plug tray. Larger plug size can increase plug time by a week. Do not cover the seed. Use a fungicide after sowing to prevent damping-off.

Photoperiod
Campanula is a qualitative long-day plant. To ensure sufficient vegetative growth and stem length, it is recommended to provide 6 weeks of short day conditions (11 hours) from approximately 2 weeks after sowing.

Stage 1 – Germination takes 4 to 5 days

Soil temperature: 68 to 72°F (20 to 22°C)

Light: Campana is a light germinator.

Moisture: Keep soil moist (level 4) in Stage 1.

Humidity: Maintain approximately 98% relative humidity (RH) until radical emerges.

Stage 2
Soil temperature: 68 to 72°F (20 to 22°C)

Light: 370 to 2,500 f.c. (4,000 to 26,900 Lux)

Moisture: Keep soil moisture at level 3 to 4 to allow the roots to penetrate into the media. Don't let the media dry out.

Fertilizer: Apply fertilizer at rate 1 (less than 100 ppm N; less than 0.7 mmhos/cm EC).

Stage 3
Soil temperature: 60 to 65°F (16 to 18°C)

Light: 370 to 2500 f.c. (4,000 to 26,900 Lux)

Moisture: Keep soil moisture at level 3 to 4.

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

Growth Regulators: Do not use growth regulators at this stage so that sufficient stem length is reached.

Stage 4
Soil temperature: 60 to 65°F (16 to 18°C)

Light: 370 f.c. to 5,000 f.c. (4,000 to 54,000 Lux)

Moisture: Same as Stage 3.

Fertilizer: Same as Stage 3.

Growing On to Finish

Planting Density
6 to 8 plants/sq. ft. (64 to 80 plants/sq. m). Use netting (5x5 in./12.5x12.5 cm) for support.

Media
Plant in beds with a well-drained, disease-free media with a pH of 5.5 to 6.0 and an EC of 0.75 mmhos/cm.

Temperature
Nights: 54 to 59°F (12 to 15°C)

Days: 60 to 70°F (16 to 21°C)

Light
Maintain light levels as high as possible while keeping the temperature moderate. To assure enough stem length and good plant quality, a minimum of 370 f.c. (4,000 Lux) light is required in the plug stage.

Photoperiod
Campanula is a qualitative long-day plant. To ensure sufficient vegetative growth and stem length, it is recommended to provide 6 weeks of short day conditions (11 hours) from approximately 2 weeks after sowing. When producing for Winter flowering, providing long days starting at 6 weeks after transplanting is required. “Mum lighting” from 10:00 p.m. to 2:00 a.m. can be used.

Irrigation
Maintain a medium moisture level. In order to reach sufficient stem length, Campanula medium needs adequate moisture and fertilization. Dry growing conditions will cause early flowering and reduced stem length.

Do not overwater as this will cause weaker stems and weaker root systems, which will lead to plants falling over.

Fertilizer
Campana needs adequate nutrition to reach the desired length. Apply standard mix with micro-elements included fertilizer at level 3 (175 to 225 ppm, EC 1.2 to 1.5 mmhos/cm) constantly with irrigation water at the first 4 weeks after transplant. After 4 weeks, reduce EC in irrigation water to 1.0 to 1.2 mmhos/cm (145 to 175 ppm).

Growth Regulators
Do not use growth regulators.

Pinching
Pinching is not required. Pinching will lead to a delay in flowering of about 2 weeks. It will result in multiple stems of shorter length and lesser stem quality.

Crop Scheduling
Sow to transplant (288 cell plug): 7 to 8 weeks with minimum 5 to 6 weeks short days (11 hrs.) on plugs under cooler conditions (60 to 65°F/16 to 18°C)

Transplant to flower: 10 to 14 weeks (under proper day length and temperature range)

Total crop time: 17 to 22 weeks (under proper day length and temperature range)

Production: Campana can be produced year-round under the appropriate light levels, temperature and day lengths.

Common Problems

Insect: Aphids, Thrips, Leafminer

Disease: Fusarium, Rhizoctonia, Ramularia, Rust, Downy mildew

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.

Ball Horticultural Company
622 Town Road, West Chicago, Illinois, USA, 60185
630 879-BALL www.ballseed.com