Campanula Spring Bell™ 2.0

Culture Guide

Botanical name: *Campanula interspecific*
Product form: Vegetative
Containers: Quarts, Gallons
Habit: Trailing/Spreading
Vernalization: Not Required (First Year Flowering)

Garden Specifications

Garden Height: 14–18″ (35–45 cm) tall
Garden Width: 8–12″ (20–30 cm) wide
Exposure: Full sun
USDA zone: 5–9
AHS zone: 6–1
Product use: Containers, Hanging Baskets

Propagation of Unrooted Cuttings

Root emergence: 7–14 days

Rooting hormone: Recommended. However, an overhead heavy spray to the cuttings (penetrating the rooting media) using water-soluble K-IBA at 250–300 ppm 24–48 hours after sticking can hasten rooting.

Bottom heat temp.: 70–72 °F (21–22 °C) for the first three weeks. After roots are well developed, temperatures can be lowered to hold and tone the cuttings.

Misting: Mist schedules vary depending on light and temperature conditions. Apply just enough moisture to rehydrate the cuttings and keep them from wilting. Cuttings should be hydrated and in a non-wilted stage within 24 hours after sticking. Cuttings that continue to wilt heavily after 24 hours will callus unevenly and will be delayed in rooting. CapSil® (spray adjuvant) can be sprayed on the cuttings at a rate of 2–4 oz/100 gal within 1–2 days after sticking to help in rehydration of the cuttings. Misting should be significantly reduced after 3–4 days and after cuttings become fully hydrated. Tenting has also shown to be helpful to increase humidity.

Rec. tray size: 105-cell (30 mm) or larger

Propagation timing: 5–6 weeks for a 105-cell plug; add more rooting time for significantly larger plug sizes.

Temperature

Day: 68–70 °F (20–21 °C)
Night: 68–70 °F (20–21 °C)

Lighting

Day extension lighting: Not necessary
Light intensity: 1,000–1,200 foot candles (200–250 micro mols) for the first two weeks after sticking or until root development occurs. Light levels can be increased up to 3,000 foot candles (600 micro mols) as rooting increases and the cutting matures.


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Day length response: Obligate long day
Daily light integral: 4–6 mols/day for the first two weeks after sticking or until root development occurs. DLI can be increased to greater than 12 mols/day after root formation.

Media pH: 5.8–6.2

Media EC: SME EC: 0.9–1.3 mS/cm, PourThru EC: 1.4–2.0 mS/cm

Fertilizer: Begin fertilization at 50 ppm nitrogen when roots become visible. Rates can be increased up to 100 ppm nitrogen after roots become well developed. Use primarily Cal-Mag® Plus (calcium nitrate + magnesium nitrate) fertilizers in propagation to prevent unwanted stretch.

Pinching: Recommended

Plant growth regulators (PGRs): If plugs are pinched 7 to 10 days before transplant (leaving 4–6 nodes) and temperature is reduced between 64–68 °F (17–20 °C) after plants are rooted there should be no need for PGRs.

Bulking and Vernalization

Vernalization: Not Required (First Year Flowering)

Finishing

Temperature

Day: 74–76 °F (23–24 °C)
Night: 64–66 °F (18–19 °C)
Average daily temperature: 70 °F (21 °C)

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Lighting

Day extension lighting: Necessary to 14 hours
Light intensity: 4,000–6,000 foot candles
Day length response: Obligate long day
Daily light integral: 14–16 mols/day

Transplanting: Transplant directly into the finished container. Place the rooting media slightly above the level of media in the container. Make sure that the root ball is covered and that the plug is situated in the center of the pot.

Media pH: 5.8–6.2

Media EC: SME EC: 1.5–2.1 mS/cm, PourThru EC: 2.3–3.2 mS/cm

Fertilizer: 125–175 ppm N

Pinching: No. Pinching is not recommended or needed if pinched in propagation prior to transplant.

Plant growth regulators (PGRs): If needed, B-Nine® WSG (daminozide) spray at 2,500–5,000 ppm, or Bonzi® (paclobutrazol) spray at 30 ppm.

Tech tip: It is very important that plants are bulked under less than 12 hours of light for 4–5 weeks before transitioning to long days. If this is in not done, the plants will not sufficiently fill the pot before flowering.

Moisture level: Media should be allowed to dry between irrigations. Alternate between moisture level 2 and 4.

2 - MEDIUM: Soil is light brown in color, no water can be extracted from soil, and soil will crumble apart.

4 - WET: Soil is dark brown but not shiny, no free water is seen at the surface of the soil, when pressed or squeezed water drips easily, and trays are heavy with a visible bend in the middle.

Common pests: Thrips, Whiteflies, Spider mites

Common diseases: Powdery mildew

Scheduling

Size	Crop Time	Plants Per Pot
1.0 quart (4.5 to 5 inch)	7–8 weeks	1 ppp
1.25 to 2.5 quart (5.5 to 6.5 inch, trade gallon)	9–10 weeks	1 ppp
3.0 quart to 2.0 gallon (7.5 to 10 inch)	10–12 weeks	3 ppp

Estimated finish crop time is from transplant of a 105-cell tray and finished at an average daily temperature (ADT) of 70 °F (21 °C).

Example crop schedule for a 2.5 quart

Weeks From Transplant	Description
1 week	Transplant one plug per 2.5 quart pot and continue to bulk under less than 12 hour day-length
5 weeks	Transition to long days and apply plant growth regulators (PGRs) as needed
10 weeks	Finish

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