

# Campanula Cariboo™

## Culture Guide



**Botanical name:** *Campanula interspecific*

**Product form:** Vegetative

**Containers:** Quarts, Gallons

**Habit:** Upright

**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:** 8–1

**Product use:** Containers, Landscapes

### Propagation of Unrooted Cuttings

**Root emergence:** 10–12 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.:** 68–70 °F (20–21 °C) for the first three weeks. After roots are well developed, temperatures can be lowered to 64–68 °F (18–20 °C) 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 been shown to be beneficial in hastening rooting.

**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.

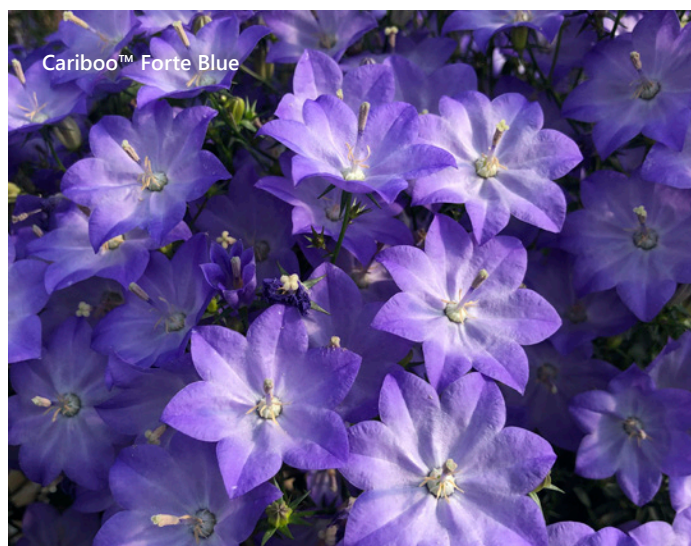
### **Temperature**

**Day:** 64–66 °F (18–19 °C)

**Night:** 64–66 °F (18–19 °C)

### **Lighting**

**Day extension lighting:** Not necessary



**Light intensity:** 200–250  $\mu\text{mol}\cdot\text{m}^{-2}\cdot\text{s}^{-1}$  for the first two weeks after sticking or until root development occurs. Light levels can be increased up to 600  $\mu\text{mol}\cdot\text{m}^{-2}\cdot\text{s}^{-1}$  as rooting increases and the cutting matures.

**Day length response:** Obligate long day

**Daily light integral:** 4–6  $\text{mol}\cdot\text{m}^{-2}\cdot\text{d}^{-1}$  for the first two weeks after sticking or until root development occurs. DLI can be increased to greater than 12  $\text{mol}\cdot\text{m}^{-2}\cdot\text{d}^{-1}$  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 80 ppm nitrogen when roots become visible. Rates can be increased up to 150 ppm nitrogen after roots become well developed. Use primarily Cal-Mag® Plus (calcium nitrate + magnesium nitrate + iron) fertilizers in propagation to prevent unwanted stretch.

**Pinching:** Recommended

**Plant growth regulators (PGRs):** Generally not required.

### Bulking and Vernalization

**Vernalization:** Not required (First Year Flowering)

### Finishing

#### **Temperature**

**Day:** 70–72 °F (21–22 °C)

**Night:** 64–66 °F (18–19 °C)

**Average daily temperature:** 68 °F (20 °C)

## Lighting

**Day extension lighting:** Necessary to 14 hours

**Light intensity:** 1,200–1,600  $\mu\text{mol}\cdot\text{m}^{-2}\cdot\text{s}^{-1}$

**Day length response:** Obligate long day

**Daily light integral:** 14–16  $\text{mol}\cdot\text{m}^{-2}\cdot\text{d}^{-1}$

**Transplanting:** Transplant directly into the finished container. Place the rooting media slightly below 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:** Yes, 1 pinch is recommended either in propagation or 7–10 days after transplant.

**Plant growth regulators (PGRs):** If necessary, a B-Nine® WSG spray at 2,500 ppm, or a Bonzi® spray at 30 ppm can be used.

**Tech tip:** Bulk under days shorter than 12 hours of light for 4–5 weeks before the start of long days.



Try Chrysal Alesco®, a postharvest foliar spray, to protect ethylene sensitive crops during shipping and retail.

**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:** Aphids, Spider Mites, Thrips, Whiteflies

**Common diseases:** Powdery Mildew

## Scheduling

Size	Crop Time	Plants Per Pot
1.25 to 2.5 quart (5.5 to 6.5 inch, trade gallon)	14–16 weeks	1 ppp
3.0 quart to 2.0 gallon (7.5 to 10 inch)	16–18 weeks	3 ppp

Estimated finish crop time is from transplant of a 105-cell tray and finished at an average daily temperature (ADT) of 68 °F (20 °C).

## Example crop schedule for a 2.5 quart

Weeks From Transplant	Description
1 week	Transplant one plug per 2.5 quart pot. Grow under short days (<12 hours) to prevent early flower set
5 weeks	Start to increase day length about 14 hours to start flower initiation
9 weeks	Apply PGRs as needed to tone plants
14 weeks	Finish



Cariboo™ Forte Blue