



Clockwise™ Compact  
Deep Blue

# Campanula Clockwise™

syngenta® flowers

## Culture Guide

**Botanical name:** *Campanula portenschlagiana*

**Product form:** Seed

**Containers:** Quarts, Gallons

**Habit:** Mounding

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

### Garden Specifications

**Garden Height:** 8–12" (20–30 cm) tall

**Garden Width:** 8–10" (20–25 cm) wide

**Exposure:** Full sun

**USDA zone:** 3–7

**AHS zone:** 7–2

**Product use:** Containers, Landscapes, Combos

### Germination

Stages 1 & 2

**Germination time:** 7–10 days

**Media temp:** 68–72 °F (20–22 °C)

**Chamber:** Optional

**Light:** Not required for germination

**Seed cover:** No

**Moisture level: 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.

**Rec. tray size:** 288–cell tray

**Seeds per cell:** 3

### Young Plant Production

Stage 3 & 4

#### Temperature

**Day:** 66–68 °F (19–20 °C)

**Night:** 64–66 °F (18–19 °C)

**Average daily temperature:** 65 °F (18 °C)

#### Lighting

**Day extension lighting:** Not necessary

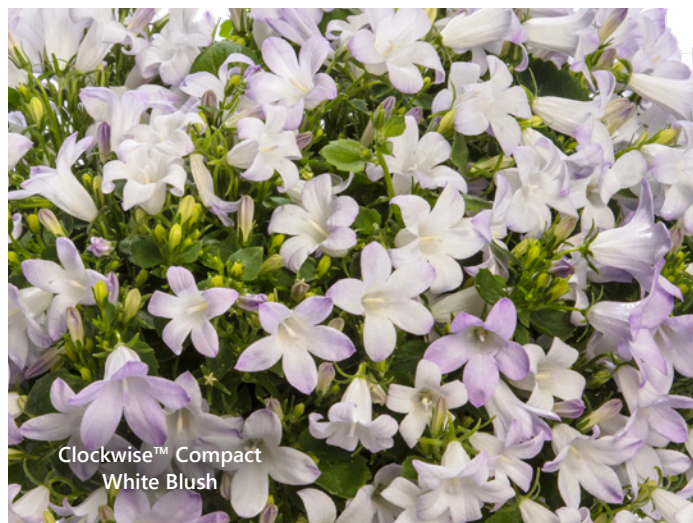
**Light intensity:** 200–250  $\mu\text{mol}\cdot\text{m}^{-2}\cdot\text{s}^{-1}$  for the first two weeks after sowing or until root development occurs. Light levels can be increased up to 600  $\mu\text{mol}\cdot\text{m}^{-2}\cdot\text{s}^{-1}$  as rooting increases and the seedling matures.

**Day length response:** Obligate long day

**Daily light integral:** 10–12  $\text{mol}\cdot\text{m}^{-2}\cdot\text{d}^{-1}$

**Media pH:** 5.8–6.2

**Media EC:** SME 0.5 to 0.75 mS/cm



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**Fertilizer:** 50–75 ppm N

**Moisture level:** Media should be allowed to dry between irrigations. Alternate between moisture level 2 and 3.

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

**3 - MOIST:** Soil is brown in color, strongly squeezing the soil will extract a few drops of water, and trays are light with no visible bend.

**Pinching:** No

**Plant growth regulators (PGRs):** Not necessary

**Plug grow time:** 9–10 weeks in a 288–cell tray

**Comments:** Grow plants under short day conditions (less than 12 hours) to avoid early flower initiation.

### Bulking and Vernalization

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

### Finishing

#### Temperature

**Day:** 66–68 °F (19–20 °C)

**Night:** 62–64 °F (17–18 °C)

**Average daily temperature:** 65 °F (18 °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  $\text{mol}\cdot\text{m}^{-2}\cdot\text{d}^{-1}$



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**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:** 6.1–6.5

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

**Fertilizer:** 75–125 ppm N

**Pinching:** No. Pinching is not recommended or needed.

**Plant growth regulators (PGRs):** If necessary, B-Nine® WSG spray at 2,500–3,750 ppm, or Altercel™ (chlormequat chloride) spray at 500–1,000 ppm have been shown to be effective.

**Tech tip:** After transplanting, grow plants under short day conditions for 2–3 weeks, then transition to day lengths for 14 hours, or provide 4 hours of night interruption lighting to force flowering.

**Moisture level:** Media should be allowed to dry between irrigations. Alternate between moisture level 2 and 3.

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

**3 - MOIST:** Soil is brown in color, strongly squeezing the soil will extract a few drops of water, and trays are light with no visible bend.

**Common pests:** Aphids, Whiteflies, Spider Mites

**Common diseases:** Botrytis, Pythium, Rhizoctonia

## Scheduling

| Size   | Crop Time  | Plants Per Pot |
|--|------------|----------------|
| 1.0 quart<br>(4.5 to 5 inch)                         | 9–10 weeks | 1–2 ppp        |
| 1.25 to 2.5 quart<br>(5.5 to 6.5 inch, trade gallon) | 9–10 weeks | 3 ppp          |

Estimated finish crop time is from transplant of a 288-cell tray and finished at an average daily temperature (ADT) of 65 °F (18 °C).

## Example crop schedule for a 2.5 quart

| Weeks From Transplant | Description  |
|-----------------------|--|
| 1 week                | Transplant 3 plugs per 2.5 quart pot and finish at 65 °F (18 °C) ADT; grow plants at day lengths of 12 hours or less to bulk for 3–4 weeks |
| 4 weeks               | Force flower initiation by providing day lengths greater than 14 hours or 4 hours of night interruption lighting                           |
| 6 weeks               | PGR spray of B-Nine® WSG or Altercel™ as needed to tone  |
| 10 weeks              | Finish   |



Clockwise™ Compact Deep Blue and  
Clockwise™ Compact White Blush