

<b>Cultural Information for:</b>	Campanula Appeal	Annual
<b>Common Name:</b>	Cup and Saucer	
<b>Botanical Name:</b>	Campanula medium	
<b>Seed Count:</b>	23,000-24,500 /ounce	700-800 /gram
<b>Optimum Germination Temperature:</b>	65-68°F / 18-20°C	
<b>Optimum Growing Temperature:</b>	55-60°F / 13-15°C	
<b>Optimum pH:</b>	5.8 – 6.2	
<b>EC – Plug:</b>	0.4 – 0.8 mmhos/cm (1:2) / 0.9 – 2.0 (SME) / 1.1 - 2.6 (Pour Thru)	
<b>EC – Finishing:</b>	0.9 – 1.3 mmhos/cm (1:2) / 2.1 – 3.5 (SME) / 2.7 - 4.6 (Pour Thru)	

## Plug Culture – 5 weeks (288 / 12 x 24 tray)

**Stage One** (days 1-10) Single sow pelleted seed into a 288-plug tray using a sterile and well-drained media. Cover the seed lightly with vermiculite and maintain high humidity and enough moisture to melt the pellet. Optimum germination temperature is 65-68°F/18-20°C. For the highest germination, maintain an even temperature of 68°F/20°C for four days after sowing.

**Stage Two** (days 11-21) After the seedlings emerge, place the plug flats in a bright and cool greenhouse with good air circulation. Apply a light feed of 100 ppm Nitrogen using a well-balanced fertilizer. Maintain moderate air temperatures, 68-72°F/20-22°C, to avoid stress and prevent rosette. *To prevent pre-mature flower bud initiation, provide short day conditions in the plug stage (less than 11 hours) by using black out material.*

**Stage Three** (days 22-34) Seedlings are beginning to fill in the plug tray. Maintain short days and fertilize as needed to maintain a media EC of 0.26 to 0.75 mmhos (1:2 slurry) using a well-balanced fertilizer. The use of a calcium nitrate-based fertilizer is beneficial in helping to build strong and healthy transplants.

**Stage Four** (day 35) Seedlings should now have 2-3 true leaves and are now ready to transplant into pots.

## Transplanting to Flower 14 weeks

### **Days 36-56 (3 weeks)**

Place one plant per 6 inch/15 cm pot using a well-drained organic media. **Maintain short day conditions\* (less than 11 hours)** and grow the plants at 68°F/20°C for three weeks to establish. Fertilize the pots weekly with 150 ppm of a well-balanced Calcium Nitrate-based fertilizer.

**\*Note** be sure to maintain short day conditions (less than 11 hours) from sowing and continuing after transplanting for at least 3 weeks. The plants should be fully rooted with 8-10 true leaves covering the pot prior to flower bud initiation.

### **Days 57-70 (2 weeks)**

The plants are established and ready for flower bud initiation. Drop the temperature to 50-55°F/10-12°C and provide long day treatment for 2 weeks (total 16-hour day length). Night interruption from 10 pm to 2 am works well using incandescent (mum) lighting. *For fuller pots and a rounder look make a soft pinch as the plants begin to elongate vertically.*

### **Days 71-98 (4 weeks)**

Maintain cool temperatures of 50-55°F/10-12°C but stop day length manipulation (turn off the lights). This will help keep the plants more compact and promote better branching. Campanula Appeal is naturally dwarf but applying B-Nine 2 weeks after stopping long day treatment promotes a more compact plant.

Pot Size	Unpinched	Pinched
4 inch / 10 cm.	3,750 ppm / 0.375%	2,500 ppm / 0.25%
5 inch / 12 cm.	2,500 ppm / 0.25%	1,500 ppm / 0.15%
6 inch / 15 cm.	1,500 ppm / 0.15%	1,000 ppm / 0.1%

### **Days 99-133 (5 weeks)**

Raise the temperature to 59°F/15°C.

### **Day 134 (19 weeks from sowing)**

Pots should begin flowering. Pots can be sold in the bud stage (big and puffy) as the buds will open nicely indoors; especially if placed near a lamp or bright window.

### **Scheduling:**

Hemisphere	Sow	Flower*
Northern	August - February	December – June
Southern	February - August	June - December

\*Mid February sowings in the Northern Hemisphere, and mid August sowings in the Southern Hemisphere will initiate flower buds naturally without supplemental lighting.

**Note:** Sowing schedule is totally dependent upon the ability to maintain optimum temperatures. In mid to late spring the longer photoperiod, higher light levels and warmer temperatures will accelerate flowering.

*“All information given is intended for general guidance only and may have to be adjusted to meet individual needs. Cultural details are based on North American conditions and Sakata cannot be held responsible for any crop damage related to the information given herein. Application of recommended growth regulators and chemicals are subject to local and state regulations. Always follow manufacturer’s label instructions. Testing a few plants prior to treating the entire crop is best.”*