

Cultural Information for:	Carnation Can Can	Annual
Common Name:	Carnation	
Botanical Name:	Dianthus caryophyllus	
Seed Count:	12,000 /ounce	420 /gram
Optimum Germination Temperature:	65-70°F / 18-21°C	
Optimum Growing Temperature:	50-64°F / 10-18°C	

Plug Stage – 35 days (288 / 12 x 24 tray)

Stage One (days 1-7) Single sow seed into a well-drained sterile media and lightly cover the seed until it is no longer visible. Ideal media pH is 5.8 to 6.2 with an EC less than 1.0 mmhos. Moisten the media and germinate at a temperature of 65-70°F/18-21°C. The media should be kept uniformly moist as with other seeds. Overwatering while in the germination stage should be avoided as damping-off could develop.

Stage Two (days 8-15) When the seedlings begin to emerge reduce moisture levels and place the seed trays in a bright greenhouse with a temperature of 65-70°F/18-21°C. When the cotyledons are fully expanded, apply 75 ppm N from a well-balanced calcium nitrate-based fertilizer.

Stage Three (days 16-27) The first true leaves are appearing and seedlings can now be fertilized with 150 to 200 ppm of N to maintain a media EC of 1.0 to 1.2 mmhos (2:1 dilution). Provide high light (5,000 foot candles /54,000 lux) and good air movement and allow the soil to dry out in between watering to reduce disease pressure.

Stage Four (days 28 – 35). Seedlings are approaching transplant stage. Target 60°F/16°C and reduce watering to tone the plants and to maximize root hair growth.

Transplanting to Flower (105 - 135 days)

Pot Size: Can Can is often marketed in cell packs and 4 inch/10 cm. pots without flowers. However, it is best suited for 1 gallon/20-21 cm. pot sales in flower.

Media: Any media which is high in nutrient holding capacity and has a good drainage will suit the needs of Carnation Can Can. However, the soil structure should be sufficient to support the growth of this crop for 3 ½ to 4 ½ months. Ideal pH range is 5.8 to 6.2.

Fertilization: Can Can is a relatively heavy feeder. A constant liquid fertilization of 150 to 200 ppm N will yield a sturdy, compact plant with a profusion of flowers. Carnation is sensitive to boron deficiency. Apply 0.25 ppm B at every irrigation. An application of slow release fertilizer is beneficial and, if used, the liquid fertilizer should be applied at 140 ppm Nitrogen. Ideal EC range is 1.2 to 1.5 mmhos (2:1 dilution).

Temperature: After transplanting, the plants should be grown at a maximum day temperature of 59-64°F/15-18°C and a minimum night temperature of 40-45°F/4-7°C. Night temperatures lower than 40°F/4°C will delay growth and flowering. In general, the cooler the night temperature, within the recommended range, the greater the branching and the tighter, more compact the habit. Outdoor production is possible in mild climates. Similar to other carnations, growth can be hastened or slowed by raising or lowering the temperature.

Photoperiod: Initially providing short days for 3 weeks after transplanting increases branching. Flower initiation and development are primarily a function of total light calorie accumulation and temperature. Carnation is a **facultative long day plant** and applying long days (>14 hours) starting a few weeks after transplanting to visible bud is beneficial in reducing crop time by several weeks and increasing bud count.

Flowering: Flowering of Carnation Can Can is dependent on the total amount of light calories that the plant receives. In areas where the light levels are not reduced, the crop time will vary much less as the seasons changes from autumn to winter to summer. As with other carnations, Can Can will respond to supplemental lighting during the darker months of the year. This will reduce the production time and allow a grower to even out year-round cropping time. Flowering will occur in 105-135 days from transplanting depending on the season, production temperatures and grower's location. Once flower buds appear, light quality and temperature play a greater role in development than photoperiod. All of these factors are related to the effect of temperature and total light calories that the plants receive.

Growth Regulators: If grown cool with high light, no growth regulator applications are needed.

Pinching: No Pinching is required as Can Can is self-branching.

Disbudding/Center Budding: No flower bud removal is recommended for Can Can. The plants will naturally produce an abundance of 2-inch/5 cm. flowers.

Seasonal Recommendations: As is typical for this genus, Can Can is a cool season crop. Production will be limited to the cooler months of the year for any given production site. In southern areas of U.S.A. and Europe, or similar climates, sow from September 1st to March 1st. In northern areas sowing may be extended to late March. In regions with a year-round moderate climate, sowing should be possible at any time of the year, as long as the cool temperature requirements of this crop can be met.

Suggested schedules:

Plug Tray	Transplant	Finish	Flower
288*	4-inch pot**	4-inch pot***	Sold Green
5 weeks	3 weeks	4 weeks	12 weeks

Plug Tray	Transplant	Finish	Flower
200*	128 plug cell**	1 gallon pot***	Sold in color****
6 weeks	3 weeks	12 weeks	21 weeks

- * HID lighting
- ** Short days to increase branching by 2-3 times, minimum of 2 weeks of short days
- *** Long days and high light to increase bud count and decrease time to flower
- **** Temperature is the main regulator of timing from visible bud to flowering. Higher temperature results in faster 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.”