Campanula carpatica

Carpathian Harebell

Compact, mounded habit with masses of large, upright facing, star-shaped flowers

Technical Information

Life Cycle:	First year flowering perennial
USDA Hardiness Zones:	3-8
AHS Heat Zones:	9-1
Exposure:	Full sun to partial shade
Uses:	Pot crop, perennial plantings, rock garden
Natural flower time:	July-August
Flowering response:	Long day
Germination:	Sow in a well-drained media with good moisture holding capacity. Germinates in 14-21 days at 65-70 °F (18-21 °C) with 95 % relative humidity. Cover seeds lightly with vermiculite.
Plug production*:	During Stage II, maintain temperatures of 65-70 °F (18-21 °C) and begin fertilization at 30 ppm nitrate nitrogen in a well balanced fertilizer. During Stages III and IV, gradually lower to 60-65 °F (15-18 °C). Fertilize weekly at 50-75 ppm nitrogen in a well balanced fertilizer mix. Avoid excess soluble salt buildup. Leach with clear water as needed. To insure adequate plant development and delay premature flower bud initiation, provide less than 14 hours of light. Do not allow soil to dry out!
Growing on:	Transplant plugs after 10-12 weeks. Plant 1-3 plugs in a 4” (10 cm) pot, and 3 plugs in a 6” (15 cm) pot. To promote root development, maintain soil moisture levels and temperatures of 60-65 °F (15-18 °C) for 2-3 weeks after transplanting. Once roots begin to develop, gradually lower temperatures to 55 °F (12 °C). Begin feeding at 150-200 ppm nitrogen in a well balanced formula.
Crop time:	Plugs: 9-10 weeks; Flowering 4” (10 cm) pots: 8-9 weeks after transplanting plugs * The ‘Pearl’ series flowers 1-2 weeks earlier than the ‘Clips’® series
Production methods:	Campanula ‘Clips’® and ‘Pearl’ series’ are suited for three types of production: **Method 1:** Greenhouse pot production **Method 2:** Greenhouse pot production from dormant plants **Method 3:** Production using natural daylength **Method 1:** Sow seed 20-24 days prior to flowering date depending on light levels and time of year. Space plants pots tight for 2-3 weeks after transplanting. Then space

6” (15 cm) pots on 6” (15 cm) centers and 4” (10 cm) pots on 4” (10 cm) centers. Gradually lower temperatures to 55 °F (12 °C) to improve plant quality. Fertilize at 150-200 ppm nitrogen in a well balanced fertilizer. Monitor for soluble salts and leach with clear water when needed. Once plants are spaced, implement long days of 16 hours per day or night interruption of 4 hours (mum lighting schedule). Continue lighting until flower buds are completely developed.

Method 2: Sow seeds late May through July depending on the region. Grow pot to pot until foliage covers the pot, then space to avoid Botrytis due to poor air movement. Feed at 150-200 ppm nitrogen in a well balanced fertilizer. Monitor for soluble salts and leach with clear water when necessary. Maintain even soil moisture levels. Allow plants to go dormant naturally during the fall as temperatures drop. Keep temperatures above 32 °F (0 °C) and below 40 °F (5 °C). Begin greenhouse forcing 10-12 weeks before market date. Force plants starting at 60-65 °F (15-18 °C) for 2-3 weeks, then lower temperatures to 55 °F (12 °C) to improve plant quality. For top quality, space plants like in Method 1. Once temperatures are lowered, implement long day treatments of 16 hours per day or night interruption of 4 hours (mum lighting schedule). Continue lighting until flower buds are completely developed.

Method 3: Sow seeds January to February for natural flowering June through August. Maintain adequate soil moisture and avoid hot and dry situations for highest plant quality. Feed at 150-200 ppm nitrogen during the growing period, but monitor for soluble salt buildups. For top quality, space plant like in Method 1.

Culture hints: Campanula ‘Pearl’ responds well to several growth regulators including B-Nine, Cycocel, and A-Rest. All growth regulator treatments should be stopped when buds begin to open as spotting on flowers will occur. Campanulas do not ship well above temperatures of 80 °F (26 °C).

‘Clips’® series
8” (20 cm), with masses of large bell-shaped flowers. Suitable for year round production of flowering pots or indoor plants.

H 1150 **‘Clips® Blue’**
Masses of sky blue flowers

H 1140 **‘Clips® Deep Blue’**
Intense blue flowers cover the deep green foliage

H 1160 **‘Clips® White’**
Brilliant true white flowers

‘Pearl’ series
6” (15 cm), large-flowered, early-blooming and uniform series. More compact than ‘Clips’® and flowers 1-2 weeks earlier. Suitable for use as a mass produced pot plant and hardy landscape perennial. More heat tolerant than most types, its habit and flower size retain well in the summer heat.

H 1010 **‘Pearl Deep Blue’**
Large, open faced deep blue flowers
H 1020 **‘Pearl Light Blue’**
Unique iridescent light blue that compliments other colors in the series
H 1040 **‘Pearl White’**
Large pure white bell-shaped flowers

(as multipellet, avg. of 5 seeds per pellet)
H 1010P **‘Pearl Deep Blue’**
H 1020P **‘Pearl Light Blue’**
H 1040P **‘Pearl White’**

*Germination Stages (from seed to finished young plant)

Stage I: Starts with the radicle breaking through the testa. The roots are touching the medium. Ends with fully developed cotyledons.
Stage II: Starts from fully developed cotyledons. Ends with the fully developed true leaf or true leaf pair.
Stage III: Starts from the fully developed true leaf or true leaf pair and ends with 80% of the young plants being marketable.
Stage IV: All young plants are ready for sale and in the process of being hardened off. This stage lasts about 7 days.

The cultural recommendations are based on results from trials conducted under North American conditions. Different conditions in other parts of the world may lead to deviations in results achieved. PGR applications for some species may be beneficial. Consult the label of your preferred PGR for application rates.