Primula elatior F_1

Crescendo®, Piano

Family, Origin: Primulaceae, Europe

Product Use: Pots, mixed containers and landscape/bedding

Minimum Germination Rate: 85 %

Seed Form: Piano: Raw
Crescendo®: BeGreen Primed

FLOWERING

Flowering Type: Facultative long day plant. Long day treatment will enhance flowering.

Flowering Mechanism: Maturity of the plant having 6-8 true leaves and irradiance, with light levels of 12-14 mol/m²/day and long days will trigger flowering.

PLUG CULTURE

Germination: Maintain optimal conditions for seedling development, should begin on the day of sowing until root emergence. Expect root emergence in 6-8 days from sowing.

Cover: Cover the seed lightly with a thin layer of medium vermiculite to maintain optimum humidity levels around the seed.

Sowing method: 1 seed per plug.

Media: pH 5.5-5.8; Use a porous well drained media low in soluble salts. EC < 0.5. Primula are very sensitive to high soluble salts in the media.

Temperature: Maintain 18-19 °C Temperatures above 21 °C will reduce germination rates. Once the cotyledons are fully expanded the temperature can be reduced to 16-17 °C to prevent stretch.

Moisture: Begin with a saturated (5) for the first 7-8 days and then gradually reduce the moisture level to a wet (4) once all of the seeds have finished germination. When watering re-saturate to a saturated (5) for the first 11 days. Thereafter alternate between a moisture level wet (4) and moist (3) until day 25. After day 25 the moisture level can be decreased to a medium (2) between watering.

Humidity: 95-100 % until day 11, then reduce to 40-60 %. Provide proper ventilation and horizontal airflow to improve oxygen levels in the media. If using a germination chamber it is critical to maintain a high humidity near 100 % until all seeds have germinated. When the seedling trays are removed from the chamber make sure to maintain a high humidity level.

Light: Light is not necessary for germination but can be beneficial if using a germination chamber. Providing a light source of 10-100 ft. candles (100-1,000 lx) will reduce stretch and improve quality. When moving seedlings into the greenhouse keep the light levels at 4-6 mol/m²/day (15,000-20,000 lx).

Fertilizer: Maintain an EC < 1.0. The EC of the fertilized water should not exceed 0.5.

Plug Bulking and Flower Initiation: Maintain optimal conditions during the vegetative stage from cotyledon expansion to flower initiation. When the seedlings root to the edge of the plug and reach the 6-8 true leaf stage, flower initiation will occur.

Media: pH 5.5-5.8; The pH needs to be kept below 6.0. At a higher pH of > 6.2 iron and manganese may become deficient. EC 1.0-1.2.

Light: 8-10 mol/m²/day (25,000-30,000 lx). As plants mature to the 6-8 true leaf stage the light levels can be increased further to 12-14 mol/m²/day (35,000-40,000 lx). Avoid direct sunlight since damage can occur as a result.

Temperature: Maintain 16-18 °C until seedlings are rooted to the bottom of the plug. Then the temperature can be lowered to 12-15 °C to tone the plants.

Moisture: Alternate between a moist (3) and a medium (2). Allow the soil to reach a medium (2) before re-saturating to a moist (3).

Fertilizer: Begin feeding early, on day14, using a complete fertilizer such as a 17-5-17, 14-4-14 or 15-5-15 at 50-60 ppm. The fertilizer levels can be gradually increased to feeding every second or third watering at 100 ppm when the plants reach 21 days.

Growth Regulators: No growth regulators should be necessary.

Fungicides: Use of a preventative fungicide is recommended to control soil born diseases. Use the rates recommended on the label.

GROWING ON

Media: pH 5.5-5.8; use a porous, well drained media; EC 1.2-1.5.

Light: Provide 12-14 mol/m²/day (35,000-40,000 lx) for the fastest finish.

Temperature: For the first two to three weeks after transplanting or until the roots reach the bottom of the pot begin with 12-13 °C. When plants are well established the temperature can be lowered to 7-9 °C for 4-6 weeks. The temperature can also be alternated between 10-12 °C days and 1-2 °C nights. In the final stages of finishing the crop for spring grow at 12-14 °C. Temperatures above 16 °C will decrease plant quality and result in smaller, lighter colored flowers. Flowering pots can be stored in a cold storage room for 4 weeks at 0.5-2 °C.

Moisture: Alternate between moisture levels wet (4) and medium (2). Water thoroughly periodically to even up the crop and then begin to dry plants back with spot-watering.

Humidity: 40-60 % humidity is ideal. Providing good ventilation and horizontal airflow will help lower the humidity and dry back the media, providing oxygen to the roots.

Fertilizer: During the finishing stages additional potassium is beneficial for flower development. Finish plants with an N:K ratio of 1:3. In cool weather, maintain low ammonium levels to avoid excessive leaf expansion and vegetative growth. Alternate between nitrate based and calcium based fertilizers (12-4-20 at 100-150 ppm and 14-4-14 at 100-150 ppm). An occasional clear watering every third or fourth watering will help to keep salt levels down.

Growth Regulators: With proper temperature and moisture management there should be no need for growth regulators. If needed apply B-nine (daminozide) as a spray at 2,500 ppm.
Fungicide: Apply fungicides during long periods of low light and high humidity.

Common Diseases: Ramularia and botrytis. Provide adequate ventilation and air circulation between plants.

Pests: Primarily aphids, cutworms, whitefly, fungus gnats, shore fly, leafminer and thrips.

Post Harvest: Fertilize with potassium nitrate at 100 ppm 1-2 weeks prior to shipping.

Plug Crop Time		
288 tray	7-8 wks	
Finished Crop Time (from 288 tray)		
	Crescendo®	Piano
Fall: 10 cm pots	-	18-20 wks
Spring: 10 cm pots	20-26 wks	16-18 wks

⇧	⇔	☼
20-30 cm	15-20 cm	Sun – Shade