

Cultural Information for:	Primula Prima	Annual
Common Name:	Fairy Primrose	
Botanical Name:	Primula malacoides	
Seed Count:	226,800 / ounce	8,000 / gram
Optimum Germination Temperature:	59-65°F / 15-18°C	
Optimum Growing Temperature:	46-59°F / 8-15°C	
Optimum pH:	5.8 – 6.2	
EC – Plug:	0.4 – 0.8 mmhos/cm (1:2) / 0.9 – 2.0 (SME) / 1.1 - 2.6 (Pour Thru)	
EC – Finishing:	0.9 – 1.3 mmhos/cm (1:2) / 2.1 – 3.5 (SME) / 2.7 - 4.6 (Pour Thru)	

Plug Culture – 6 weeks (288 / 12 x 24 tray)

Stage 1 (days 1-14) Select a sterile substrate containing a high amount of organic matter. Primula seed requires light for germination, but a light cover of vermiculite is recommended to maintain sufficient moisture. Optimum germination temperature is 59°F/16°C. Maintain high humidity levels and if needed place the flats in a germination chamber or shaded greenhouse to provide cool conditions.

Stage 2 (days 15-21) When the cotyledons are fully expanded, lower the humidity levels but do not allow the plants to dry out. A light mist 2-3 times per day is beneficial. Primula plants are very sensitive, and the leaves can easily burn in strong light (>2,000-foot candles/20,000 lux). A light shade is recommended to protect the plugs from intense sunshine. After germination maintain 59-68°F/16-20°C for optimum development. During periods of high temperatures (>75°F/24°C) the plants grow very slowly. Fertilize with 50-75 ppm N to strengthen the plants. Select a well-balanced nitrate-based fertilizer with ample potassium to produce strong and healthy seedlings.

Stage 3 (days 22-35) The first true leaves have formed. For high quality plugs it is necessary to maintain cool temperatures and sufficient humidity. Fertilize the plants with 100 ppm N as needed to maintain strong growth.

Stage 4 (days 36-45) The plants have 3-4 true leaves and are now ready for transplanting. Applying 200 ppm N a week before transplanting strengthens the plants for the transition from the plug tray to the final container.

Transplant to Flowering: 13-16 weeks

Media: Transplant the plugs into 4-inch/10 cm. pots using a slightly fertilized well-drained sterile media.

Spacing: Maintain pot tight for the first four weeks and then space at 3 plants per square foot/20-35 plants per square meter.

Fertilizer: A well-balanced calcium nitrate-based formulation with ample potassium is recommended. Apply 100-150 ppm N as necessary to maintain healthy growth. Primula is sensitive to high salts which causes leaf edge burn and root damage. A pH above 6.5 will cause chlorotic leaves.

Lighting: A maximum of 3,000-foot candles/32,000 lux is recommended for Primula production.

Temperature: Provide good air circulation to keep the foliage dry. After transplanting maintain a minimum temperature of 65°F/18°C for four weeks to build plant body*. Afterwards, drop the temperature to 45-50°F/8-10°C for 6 weeks to induce flowering.

Plant Growth Regulation: B-Nine (daminozide) at 1,000-2,000 ppm works well.

Flowering: Flower induction is related to temperature and day length. Between 43-63°F/6-17°C the plants will initiate flowers regardless of day length. Between 64-70°F/18-21°C the plants require short days (<12 hours) for floral induction. Therefore, to inhibit flowering, apply long days (>14 hours) and a temperature above 64°F/18°C.

Pests: In general, Primula is not attractive to insects, but aphid, thrip, white fly and cut worm are the major concerns. Problems with fungus gnat or shore fly are common during the germination and plug stage.

Diseases: Primula requires cool conditions and high humidity to produce plants of high quality, both of which favor the development of botrytis. Good sanitation, watering early in the day and good air movement helps to control and prevent this disease.

Crop Schedule: In general, Primula malacoides 'Prima' flowers in 19-21 weeks under optimum temperature conditions. After budding begins raise the temperature to 57°F/14°C three weeks before bloom is desired.

*** To delay flower bud initiation and build plant body for larger containers, apply long day conditions (>14 hours) and provide a temperature at or above 65°F/18°C starting at transplant. For large plug cells (128) with longer crop time, start at day 40. Prima Red is naturally more compact and benefits from delayed initiation.**

“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.”