Primula Lighthouse

Cultural Information for: Primula Lighthouse Perennial
Common Name: Primrose
Botanical Name: Primula polyantha
Seed Count: 28,000-42,000 /ounce 1,000-1,500 /gram
Optimum Germination Temperature: 65°F / 18°C
Optimum Growing Temperature: 59°F / 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 – 8 weeks (288 12 x 24 tray)

Pre-cooling: Place trays in a chamber at 55ºF/13ºC for one week and cover with vermiculite and plastic for high humidity. Pre-cooling enhances germination.

Stage 1 (days 1-14) Select a sterile substrate with high organic matter. Primula seed requires light for germination, but a light cover of vermiculite is recommended to maintain enough moisture. Optimum germination temperature is 65ºF/18ºC. Temperatures above 68ºF/20ºC reduce total emergence. Maintain high humidity levels and if needed place the flats in a germination chamber with lights for 5 weeks or a shaded greenhouse to provide cool conditions.

Stage 3 (days 30-48) The first true leaves have formed. For high quality plugs it is necessary to maintain cool temperatures and sufficient humidity. Fertilize the plants with 100-150 ppm N as needed to maintain strong growth.

Stage 4 (days 49-56) The plants have 3-4 true leaves and are now ready for transplanting. Applying 200 ppm N a week before transplanting helps the plants make the transition from the plug tray to the final container.

Transplant to Flowering – 12-14 weeks

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

Fertilizer: A well-balanced calcium nitrate-based formulation is recommended. Apply 125-150 ppm N as necessary to maintain healthy growth. Supplementing with Magnesium sulfate (MgSO4) at 30 ppm (4 ounces per 100 gallons/113 grams per 100 liters) promotes a deeper green color.

Temperature/Bulking: Maintain 65-72ºF/18-21ºC for 4-5 weeks to bulk the plants and produce sufficient vegetative growth prior to vernalization.

Lighting: Optimum range is between 1,700–2,000-foot candles/18,000 – 21,500, lux with a maximum of 3,000-foot candles/32,000 lux. Increasing potassium promotes higher bud count and more compact plants.

Flower Initiation: When the plants have 6-10 leaves and a well-established root system, the plants are receptive to flower bud initiation. Reduce the temperature to 45ºF/7ºC for 4 weeks.

Note: Lighthouse will initiate flower buds at warmer temperatures (55-60°F/13-16°C but greater uniformity is achieved at cooler temperatures.

Growth Regulation: In general, Primula growth is controlled by fertilizer and cool temperatures. If necessary, the following chemical growth regulators are effective. Do not apply below 41ºF/5ºC. To avoid over-regulation, multiple applications at a lower rate is best. Do not apply after flower bud set.

Chemical	Rate
B-Nine (daminozide)	2,500 – 5,000 ppm (0.25 – 0.5%)
Bonzi (paclobutrazol) NAFTA	5-10 ppm foliar spray 0.5-1.0 ppm drench

Flowering: After the plants are vernalized, raise the temperature to 59ºF/15ºC for flowering in 3 weeks or finish cold at 45-50ºF/7-10ºC for flowering in 4-5 weeks. The Lighthouse series has a long shelf life at retail and an extended blooming period for the consumer. Best to sell with multiple stems in flower for consumer appeal.

Area	Sow	Flower
Warm Climate	Early-July	Late-November (20-22 weeks)
Cool Climate	Early-December	Mid-April (20-22 weeks)

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

Culture Watch Points: In areas with extended periods of low light (early season in the Northwest) a higher percentage of blind types will occur along with longer flower peduncles. Transplanting prior to Week 42 ensures that the plants receive enough light prior to flower bud initiation to prevent blindness.

"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."

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