

## Perennials

Lewisia cotyledon

### Elise, Special Mix

**Family, Origin:** Montiaceae (Portulacaceae), NW Africa.

**Product Use:** Pots, Jumbo Packs, Mixed Containers, Beds, Borders, and Rock Gardens.

**Minimum Germination Rate:** 75%

**Seed Form:** ApeX

#### FLOWERING

**Flowering Type:** Facultative long day plant. Long days and high light levels will facilitate earlier flowering.

**Flowering Mechanism:** Maturity of the plant having 6-8 true leaves and high irradiance, with long day's will initiate flowering. Will flower reliably in the first year without vernalization.

#### PLUG CULTURE

**Germination:** Optimum conditions for seedling development, beginning on the day of sowing until radicle emergence. Expect radicle emergence in 14-21 days.

**Cover:** Cover seed with a light layer of medium vermiculite.

**Sowing method:** 1 seed per plug

**Media:** pH 5.5-6.0; EC < 0.5. Lewisia are sensitive to high salts in the media.

**Temperature:** Maintain 18-20 °C until root emergence.

**Moisture:** Keep substrate saturated (5) for the first 10 days, then reduce to a wet (4) until radicle emergence. After radicle emergence has occurred allow the media to dry back to moist (3).

**Humidity:** 95-100% until root emergence; then reduce to 40-60%. Provide proper ventilation and horizontal airflow to improve oxygen levels in the media.

**Light:** Lighting is not required 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 plugs into the greenhouse, keep light levels at 4-6 mol/m<sup>2</sup>/day (1,500-2,000 ft. candles or 15,000-20,000 lx). Avoid direct sunlight to prevent damage.

**Fertilizer:** Maintain EC < 0.5. Fertilized water should not exceed an EC of 0.5. After germination has occurred fertilize with a complete fertilizer (14-4-14) or (15-5-15) at 50 ppm N.

#### Plug Bulking and Flower Initiation:

Optimum conditions during the vegetative stage from cotyledon expansion to flower initiation. This stage is when the seedlings root to the edge of the plug and reach the 6-8 true leaf stage where flower initiation occurs.

**Media:** pH 5.5-6.0; EC 1.0-1.2

**Light:** 8-10 mol/m<sup>2</sup>/day (2,500-3,000 ft. candles or 25,000-30,000 lx). As plants mature to the 6-8 true leaf stage, light levels can be increased further to 12-14 mol/m<sup>2</sup>/day (3,500-4,000 ft. candles or 35,000-40,000 lx).

**Temperature:** 17-20 °C

**Moisture:** Maintain a moist (3) substrate, and avoid excessive watering. Roots are slow growing so allow the media to approach a medium (2) before re-saturating to a moist (3).

**Fertilizer:** Maintain EC 1.0-1.2. Excessive N can lead to stretching and soft growth. Begin feeding weekly using a complete fertilizer (15-5-15) at 100 ppm N. Rates can be increased up to 150 ppm N as seedlings develop.

**Growth Regulators:** No growth regulators should be necessary.

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

### GROWING ON

**Media:** pH 5.5-5.8; EC 1.2-1.5

**Light:** Provide 12-14 mol/m<sup>2</sup>/day (3,500-4,000 ft. candles or 35,000-40,000 lx) for the fastest finish.

**Temperature:** Finish plants cooler at 10-18 °C for best quality. As plants begin to flower the temperature can be increased.

**Moisture:** Maintain an even moisture level as close as possible to moist (3) throughout production. Allow the media moisture level to reach a medium (2) before re-saturating to a moist (3). Roots are slow to develop so use care not to over water. 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:** Maintain EC 1.2-1.5. Excessive N can lead to stretching and soft growth. Fertilize weekly using a complete fertilizer (15-5-15) or a (17-5-17) under high light levels at 150 ppm N.

**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:** Botrytis. Provide adequate ventilation and air circulation between plants.

**Pests:** Primarily aphids and thrips.

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

Plug Crop Time	
288 tray	7-8 wks
128 tray	9-10 wks
Finished Crop Time (from 288 tray)	
10 cm pots (1*)	10-12 wks
15 cm pots (3*)	12-14 wks

\*plants per pot

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12-16 cm	15-20 cm	Partial Shade – Sun