

## Lobelia species Fan

(*Lobelia x speciosa*)

### Germination

- Time of radicle emergence (4-6 days)
- Soil temperature 75-80°F (24-27°C).
- Keep media evenly moist but not saturated.
- Do not cover or bury the seed.
- Light is not necessary for germination until radicle emergence.
- Soil pH 5.5-5.8 and soluble salts (EC) less than 0.75 mmhos/cm (2:1 extraction).
- Lobelia is very sensitive to high salts, particularly high ammonium, during germination.
- Keep ammonium levels less than 10 ppm.

### Plug Production

#### STAGE 1 - Time of radicle emergence (4-6 days)

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#### STAGE 2 - Stem and cotyledon emergence (7 days)

- Soil temperature 68-72°F (20-22°C).
- Reduce moisture levels once radicle emergence occurs! Allow the soil to dry out slightly before watering for best germination and rooting.
- Keep soil pH 5.5-5.8 and EC less than 0.75 mmhos/cm.
- Keep ammonium levels less than 10 ppm.
- Begin fertilizing with 50 75 ppm N from 14 0 14 or a calcium/potassium nitrate feed once cotyledons are fully expanded.
- Alternate feed with clear water.
- Irrigate early in the day so foliage is dry by nightfall to prevent diseases.
- Apply protective fungicides for damping off organisms once full stand is achieved.

#### STAGE 3 - Growth and development of true leaves (14-21 days)

- Soil temperature 65-68°F (18-20°C).
- Allow the soil to dry thoroughly between irrigations but avoid permanent wilting to promote root growth and control shoot growth.
- Maintain soil pH 5.5-5.8 and EC less than 1.0

mmhos/cm.

- Increase feed to 100 150 ppm N from 20 10 20 alternating with 14 0 14 or other calcium/potassium nitrate fertilizer.
- Fertilize every 2 3 irrigations.
- If using 15-0-15 supplement with magnesium 1 2x during this stage, using magnesium sulfate (16 oz/100 gal) or magnesium nitrate. Do not mix magnesium sulfate with calcium nitrate as precipitate will form!
- High light (greater than 2500 foot-candles) may cause burning or purpling of the leaves.
- Use DIF whenever possible, especially the first 2 hours after sunrise, to control plant height.
- Lobelia responds to A-Rest, Bonzi, and Bonzi. Most growers use B-Nine after first true leaf expansion and as needed.

#### STAGE 4 - Plants ready for transplanting or shipping (7 days)

- Soil temperature 60-62°F (16-17°C).
- Allow soil to dry thoroughly between irrigations.
- Maintain soil pH 5.5-5.8 and EC less than 0.75 mmhos/cm.
- Fertilize with 14 0 14 or calcium/potassium nitrate feed at 100 150 ppm N as needed.

### Growing On to Finish

- Lobelia seedlings should be transplanted in clumps rather than single plants.
- Lobelia may be sowed direct to packs, reduces crop time 5-7 days and saves labor, but takes more space.

#### TEMPERATURE

**Night:** 50-55°F (10-13°C)

**Day:** 55-60°F (13-16°C)

#### LIGHT

Some shade should be provided, especially if temperatures are hot.

#### MEDIA

Use a well-drained, disease-free soil-less medium with a medium initial nutrient charge and a pH 5.5-6.0.

## FERTILIZATION

- Fertilize every other irrigation with 15-0-15 alternating with 20-10-20 at 150-200 ppm nitrogen.
- Maintain medium electrical conductivity around 1.0 mmhos/cm (using 1:2 extraction).

## CONTROLLING HEIGHT

- Once plants are rooted to the sides of the containers they can be allowed to wilt prior to irrigation to provide some height control.
- Height can also be controlled by withholding fertilizer, especially phosphorous and ammonium-form nitrogen.
- Lobelia are responsive to day/night temperature differential (DIF), and are shorter with a negative DIF.
- Lobelia responds to A-Rest, B-Nine, and Bonzi; however growth regulators are usually not necessary.

## Post Production Care

### TEMPERATURE

Optimum temperatures for lobelia:

**Night:** 50-55°F (10-13°C)

**Day:** 55-60°F (13-16°C)

- Optimum conditions may be difficult to maintain, especially if plants are displayed outside.
- Using a negative DIF will help keep the plants short and of high quality.

### LIGHT

Lobelia will tolerate full sun if temperatures are below 80° F. Partial shading is preferred during retail display.

### COMMON PROBLEMS:

**Insects:** Spider mites, Thrips, Whitefly

**Diseases:** Botrytis, Pythium, Rhizoctonia

