



## Duchess™

### TORENIA FOURNIERI

**Minimum Germination Rate:** 90%

**Seed Product Form:** Pelleted

### FLOWERING

**Time frame when plants are receptive to flower initiation:** Days 25 – 30 days; 6 – 8 leaves present.

**Flowering Type:** Facultative long-day plant (minor) – long days enhance flowering.

**Specific Flowering Mechanism:** Irradiance (12 – 18 mols) and temperature trigger flowering.

### PLUG CULTURE

**Germination:** Optimum conditions for seedling development that begins the day the crop is sown until cotyledon expansion. Expect radicle emergence in 4 – 6 days.

**Cover:** Do not cover the seed.

**Media:** • pH: 5.5 – 5.8

• EC: 0.5 – 0.75

**Light:** Light is necessary for germination. If utilizing a chamber, providing a light source of 10 – 100 foot candles (100 – 1,000 lux) will improve germination and reduce stretch.

**Temperature:** 75°F (22°C) until radicle emergence. Reduce to 65° – 68°F (18° – 20°C).

**Moisture:** Saturated (5) for days 0 – 6 or until radicle emergence. On day 7 reduce moisture to moist (3). Prolonged saturated media will reduce the number of transplantable seedlings.

**Humidity:** 100% until radicle emergence then reduce to 40 – 70%.

**Dehumidify:** Provide horizontal airflow to aid in drying down the media through evapotranspiration, allowing better penetration of oxygen to the roots.

**Fertilizers:** Fertigation water should not be greater than 0.5.

**Plug Bulking:** Optimum conditions during the vegetative period, beginning at cotyledon expansion, needed for the root to reach the edge of the plug cell.

**Media:** • pH: 5.5 – 5.8

• EC: 0.5 – 1

**Light:** Maximum 3,000 foot candles (30,000 lux). Avoid direct sunlight.

**Temperature:** 65° – 68°F (18° – 20°C)

**Moisture:** Alternate between moisture levels wet (4) and medium (2). Allow media to approach level (2) before re-saturating to level (4). Avoid drying plugs to wilting.

**Humidity:** 40 – 70%

**Dehumidify:** Provide horizontal airflow to aid in drying down the media through evapotranspiration, allowing better penetration of oxygen to the roots.

**Fertilizers:** After cotyledon emergence, fertilize weekly at 50 – 75 ppm nitrogen with a calcium-based fertilizer (14-2-14 or 14-4-14). A little phosphorus is beneficial for improved rooting and flowering. Increase rate to 75 – 100 ppm nitrogen as seedlings mature.

**Growth Regulators:** If desired, B-Nine (daminozide) can be applied to mature seedlings to tone the flat prior to transplant. Also responds to A-rest (ancymidol).

### GROWING ON

**Transplant Ready:** 4 – 5 weeks from sow in a '288' tray.

**Finish Bulking/Flower Initiation:** Optimum conditions during the vegetative period, beginning at transplant, needed for the root to reach the edge of the container AND to make the plant receptive to flower initiation.

**Media:** • pH: 5.5 – 5.8

• EC: 1.0 – 1.5

**Light:** To avoid heat stress, provide a light shade during the summer months. Low light conditions may cause stretching of stems and delay flowering. Supplemental light may be beneficial during winter/early spring production.

**Temperature:** 60° – 65°F (16° – 18°C) nights; 65° – 70°F (18° – 21°C) days. Night temperatures below 60°F (16°C) may cause leaf curl and leaf discoloration ranging from yellow to red.

**Moisture:** Alternate between moisture levels wet (4) and medium (2). Allow media to approach level (2) before re-saturating to level (4).

**Humidity:** 40 – 70%

**Dehumidify:** Provide horizontal airflow to aid in drying down the media through evapotranspiration, allowing better penetration of oxygen to the roots.

**Fertilizers:** 150 – 200 ppm nitrogen with a calcium-based fertilizer (13-2-13 or 14-4-14).

**Growth Regulators:** Due to its compact nature, growth regulation should not be necessary. Torenia does respond to Bonzi (paclobutrazol).

**Pinching:** No pinching is necessary due to the natural branching habit of Duchess.

**Common Diseases:** Botrytis, Pythium Root Rot

**Common Pests:** Aphids, Thrips

PRODUCT USE	GARDEN SPECIFICATIONS
Packs, pots, containers, mass plantings	<b>Light:</b> Filtered sun to full sun <b>USDA Hardiness Zone:</b> 10 <b>AHS Heat Zone:</b> 9 – 1

	Garden Height	Garden Width
<b>Duchess</b>	6 – 8" (15 – 20 cm)	6 – 8" (15 – 20 cm)

### TORENIA SCHEDULING IN WEEKS

	Duchess
<b>Total crop time</b>	11 – 13
<b>'288' plug crop time</b>	4 – 5
<b>Transplant to finish crop time</b>	
<b>Packs</b>	7 – 8
<b>4" crop</b>	8 – 9

*Note: These suggestions are only guidelines and may have to be altered to meet individual grower's needs. Check all chemical labels to verify registration for use in your region.*