



## Starla™

### PENTAS LANCEOLATA

**Minimum Germination Rate:** 85%

**Seed Product Form:** Pelleted, raw

#### FLOWERING

**Time frame when plants are receptive to flower initiation:** Days 16 – 21; 3 – 5 leaves.

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

**Specific Flowering Mechanism:** Maturity in combination with high light and warm temperatures.

#### PLUG CULTURE

**Germination:** Optimum conditions for seedling development that begins the day the crop is sown until cotyledon expansion. Expect radicle emergence in 7 – 10 days.

**Cover:** No covering over the seed is required.

**Media:** • pH: 6.4 – 6.6 Watch for decreases of pH; below 6, Pentas show iron toxicity.

• EC: <1

**Light:** Light is not 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 compared to seed germinated in the dark.

**Temperature:** 73° – 76°F (22° – 24°C) day and night from day 1 – 9.

**Moisture:** Begin with a saturated (5), from days 1 – 10. Beginning day 11, reduce moisture level to wet (4), until day 14. Afterward, begin alternating between moisture level wet (4) and moist (3).

**Humidity:** 100% until day 10.

**Dehumidify:** On day 9, lower humidity level to 40%. Maintain air flow over trays in order to dry back media moisture and allow good oxygen penetration.

**Fertilizers:** Maintain EC at <1. Fertigation water should not be greater than an EC of 0.5. On day 9, drench a nitrate based, low-phosphorous feed (14-2-14) at 50 – 60 ppm nitrogen.

**Plug Bulking/Flower Initiation:** Optimum conditions during the vegetative period, beginning at cotyledon expansion, needed for the root to reach the edge of the plug cell AND to make the plant receptive to flower initiation.

**Media:** • pH: 6.4 – 6.6

• EC: 1 – 1.2

**Light:** Provide 3,500 – 4,500 foot candles (12 – 15 total mols or 35,000 – 45,000 lux) over a 13 – 14 hour period to hasten flower induction. Supplemental lighting under low light conditions at 350 – 450 foot candles (35,000 – 45,000 lux) will enhance shoot and root growth.

**Temperature:** 68° – 72°F (20° – 22°C) night and day temperatures.

**Average Daily Temperature (ADT):** 70°F (21°C)

**Moisture:** Alternate between moisture levels wet (4) and medium (2). Allow media to approach level (2) before re-saturating to level (4). Watch for excess algae growth. Using R/O (Reverse Osmosis) water will help reduce algae levels.

**Fertilizers:** Under high light conditions, apply an ammonium-based feed (17-5-17) at 50 – 100 ppm nitrogen. Under low light conditions, apply a calcium-based feed (14-4-14 or 14-2-14) at 50 – 100 ppm nitrogen.

**Growth Regulators:** If needed, spray B-Nine (daminozide) at 2,500 ppm.

#### GROWING ON

**Transplant Ready:** 8 – 10 weeks from a '288' plug 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: 6.4 – 6.6

• EC: 1 – 1.2

**Light:** Provide 3,500 – 4,500 foot candles (12 – 15 total mols or 35,000 – 45,000 lux) to hasten flower induction. Supplemental lighting under low light conditions at 350 – 450 foot candles (35,000 – 45,000 lux) will enhance shoot and root growth. Extending the daylength to 13 – 14 hours (12 – 15 total mols of light) will hasten flower development. High light intensity, 3,500 – 5,000 foot candles (35,000 – 50,000 lux) will promote compact growth.

**Temperature:** 66° – 68°F (19° – 20°C) day temperatures; 68° – 72°F (20° – 22°C) night temperatures with a 0 – 5 degree negative DIF from 5 – 7:30 a.m.

**Average Daily Temperature (ADT):** 68°F (20°C)

**Moisture:** Alternate between level (4) moist and medium (2). Allow soil to reach 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:** Alternate with calcium and nitrate based fertilizers (17-5-17 at 60 – 75 ppm nitrogen, 14-4-14 at 60 – 75 ppm nitrogen). Watch for low calcium and magnesium levels which may result in stunted, chlorotic plants with marginal leaf burn.

**Growth Regulators:** If needed, spray either B-Nine (daminozide) at 2,500 – 5,000 ppm, Bonzi (paclobutrazol) spray at 2 – 3 ppm, or A-Rest (ancymidol) spray at 2 – 4 ppm.

#### TECHNIQUES TO ENHANCE POST HARVEST QUALITY

**When to Treat:** 1 – 2 weeks prior to finish or shipping.

**Growth Regulators:** B-Nine (daminozide) at 2,500 – 3,000 ppm.

**Fertilizer:** Potassium nitrate drench at 100 ppm nitrogen.

**Common Diseases:** Pythium, Rhizoctonia, Botrytis. Avoid over-saturated conditions, drench and/or spray appropriate fungicides as needed.

**Common Pests:** Thrips, Whitefly, Aphids, Spider Mites. Scout crops on a regular basis; apply appropriate insecticides as needed.

PRODUCT USE	GARDEN SPECIFICATIONS
Beds, mass plantings, containers, mixed combinations	<b>Light:</b> Full sun <b>USDA Hardiness Zone:</b> 11 <b>AHS Heat Zone:</b> 12 – 1

	Garden Height	Garden Width
Starla	14 – 18" (35 – 45 cm)	16 – 20" (40 – 50 cm)

#### PENTAS SCHEDULING IN WEEKS

	Starla
<b>Total crop time</b>	15 – 18
<b>'288' plug crop time</b>	7 – 9 early spring, 6 – 7 late spring
<b>Transplant to finish crop time</b>	
<b>Packs</b>	8 – 9
<b>4" crop</b>	9 – 10
<b>6" crop</b>	10 – 11

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.