Pentas lanceolata F_1

Northern Lights®

Hummingbirds and Butterflies Love Northern Lights®

The Northern Pentas Star

- Cultivation and flowering under cooler temperatures
- Large, open flower clusters in a harmonious color
- Less pH sensitive

Crop Time	Spring: 14 - 17 weeks
Height ⌀	21 " / 53 cm
Width ⌀	11 " / 28 cm
Exposure	Sun
Seed Form	Pelleted Seed
Product Use	Pots, Mixed Containers, Landscape, Mass Plantings
Family, Origin	Rubiaceae, East Africa
Minimum Germ. Rate	90 %

TECHNICAL GUIDE

Pentas lanceolata F_1 Northern Lights®

Flowering

Flowering Type: Day neutral plant, will flower regardless of day length. Very responsive to irradiance and additional lighting. Providing a 14-16 hours day length, especially in the seedling stages, will shorten the crop significantly. In addition, growing at warmer temperatures will shorten the crop time.

Flowering Mechanism: Maturity of the plant, reaching the 3-5 leaf stage is the primary mechanism. Supplemental lighting during germination will benefit but is not necessary.

Plug Culture

Germination: Maintain optimal conditions for seedling development beginning on the day of sowing until radical emergence. Expect radical emergence in 7-10 days.

Cover: No cover is necessary.

Sowing method: 1 pellet per plug

Media: pH 6.2-6.5 Starting with the proper pH of the media will improve the performance of the seedlings. Pentas can exhibit iron toxicity at lower pH levels below 5.5. Pentas require close attention to the pH, because if it's too high, a micronutrient deficiency may occur and if too low, an iron toxicity can occur. EC < 0.5. From stage 3, EC 0.75–1.0.

Temperature: 23-26 °C (74-78 °F). Once germination is completed with fully expanded cotyledons, on day 14 the temperature can be lowered to 22 °C (72 °F). Water trays using tempered water with a minimum temperature of 18 °C (64 °F). Media temperatures below 16 °C (60 °F) will inhibit the germination and growth. As plants become more mature, the temperature can be lowered to 18-20 °C (64-68 °F) during nights and 22-23 °C (72-73 °F) during days. Warmer temperatures will benefit and shorten the finish time.

Moisture: Begin with a saturated (5) for the first 10 days. Then, begin to lower the moisture slightly going to a medium (4). Maintain a consistent moisture level without over-saturating the media. Wide fluctuations in the media moisture levels can decrease seedling development and losses can occur. From stage 3, alternate between a wet (4) and a medium (2). Allow the moisture level to dry back before re-saturating to a wet (4).

Humidity: 95-100% until day 10; then reduce to 40-60%. Provide proper ventilation and horizontal airflow to improve oxygen levels in the media.

Light: Light is not crucial for germination but providing supplemental lighting will increase the quality of the seedlings and uniformity of germination. If using a chamber, provide a light source of 10-25 ft. candles (100-250 lx). When move into stage 2, the light levels can be increased to 2,000-2,500 ft. candles (20,000-25,000 lx). After 3 weeks, the light levels can be increased to 3,000-3,500 ft. candles (30,000-35,000 lx). High light levels and supplying supplemental lighting, especially in the winter can greatly shorten the crop time by as much as 2-3 weeks.

Fertilizer: Maintain an EC < 0.75. At this stage fertilized water should not exceed an EC of 0.5. Begin feeding on day 10 at 50 ppm, using 14-2-14, 14-4-14 or 17-5-17. Keep

phosphorous levels < 8 ppm, iron levels at 2-3 ppm. Later, maintain the EC levels below 1.2. Under lower light conditions, fertilize with a calcium-based fertilizer, 14-4-14 at 100 ppm. Under higher light use a 17-5-17 feed at 100 ppm.

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 4-6 true leaf stage where flower initiation occurs. If transplanted early, flower initiation can occur after transplant.

Growth Regulators: B-Nine (diminozide) sprays at 2,500-5,000 ppm work well at controlling growth.

Fungicides: Under conditions of low light and high humidity, fungicide applications may be necessary. Follow the recommended labeled rates.

Growing On

Media: pH 6.2-6.5 continue to monitor the pH to make sure that it stays above 6.0. EC 1.0-1.2. Keep the EC level < 1.5.

Light: Provide high light levels of 3,500-4,500 ft. candles (35,000-45,000 lx). Long day treatment of 14-16 hours will shorten the total crop time significantly.

Temperature: 20-21 °C (68-70 °F) during nights, 22-23 °C (72-73 °F) during days until the roots reach the bottom of the container. Thereafter, temperatures may be lowered to 16-18 °C (60-64 °F) during nights and 20-23 °C (68-74 °F) during days. Higher temperatures are beneficial and will shorten the crop time. Pentas do not seem to have a maximum temperature that will inhibit growth and flowering.

Moisture: Alternate between moisture levels wet (4) and medium (2).

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: Under low light conditions, fertilize with a 14-4-14 fertilizer at 100-150 ppm and under high light conditions use a 17-5-17 fertilizer at 100-150 ppm. Watch for calcium and magnesium deficiencies which can cause stunted plants.

Growth Regulators: B-Nine (daminozide) sprays at 2,500-5,000 ppm are very effective in height control. Light applications of Bonzi (paclobutrazol) as a spray at 2-3 ppm can also be used.

Fungicides: Apply fungicides during long periods of low light and high humidity.

Common Diseases: Botrytis, Rhizoctonia and Pythium. Keep plants from becoming too wet for any period of time. Preventative fungicide drenches can be applied at the labeled rates.

Pests: Primarily aphids, thrips and whitefly.

Post Harvest: Fertilize with potassium nitrate at 150 ppm 1–2 weeks prior to shipping.

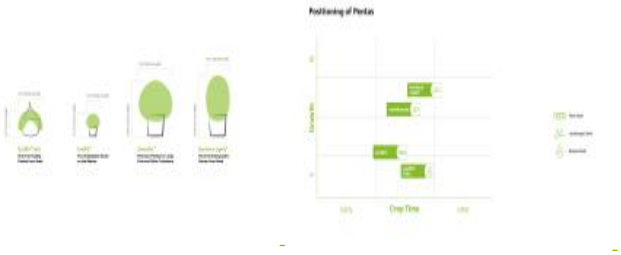
Plug & Finished Crop Time
Plug Time (288 tray): 6-7 weeks

Finished Time:

6-7” (15-17 cm) pots (1-2*): 9-10 weeks

8-12” (20-30 cm) pots (3-5*): 10-12 weeks

Timing & Positioning Charts



Expert Tip
Pay attention to maintain a higher pH at or above pH 6.4. This will help with good seedling development and finished product.

Moisture Codes

Saturated (5)	Water is easily observed when finger is pressed on cell. Water moves freely from the top of the plug to the bottom.
Wet (4)	Media looks black and is not glistening. The media feels wet to the touch but there is very little water movement.
Moist (3)	Water is not easily visible. When finger is pressed on the cell there is very little movement from top to bottom.
Medium (2)	Media is not black, but now looks medium brown. There is no water movement when pressed with finger.
Dry (1)	Media has changed color to a very light brown and is dry to the touch.

COLORS OF THE SERIES

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Lavender
PL0501P