

Overview

Phylos Velocity (early maturing) and Astral (full-season) Series genetics produce uniform, F1 hybrid Production-Ready Seeds™. The primary defining feature of photosensitive cultivars is that the flowering period is triggered by daylight length. This technical cultivation brief discusses optimal conditions when planting Phylos Velocity or Astral Series F1 hybrid seed in a greenhouse or indoor environments with light deprivation. External factors (temperature, humidity, water, nutrients) affect plant biomass, cannabinoid performance, and time to maturity. Ongoing trials and feedback from our partners will further determine the optimal parameters for these inputs. Below are the basics for a successful Velocity or Astral Series grow season.

Life Period**



- Growth Media**
- Phylos seeds germinate best in a well-draining, soilless media that allows for good seed-to-soil contact.
 - Soil temperature indoors: 70-75°F

- Sow / Transplant**
- Sow seeds in 50-72 cell plug trays directly into growth media at an ideal depth of ¼ inch but no deeper than ½ inch.
 - Transplant within 14-21 days after emergence dependent on the plant size and root development.
 - Avoid saturated conditions, but keep the growth media evenly moist.
 - Avoid extreme temperatures, especially during the seedling phase.
 - We advise against using rock wool due to the difficulties of maintaining proper seed-media contact.
 - We do not recommend using propagation domes as it keeps humidity levels too high for seedling health.
 - Seedlings need high light intensity immediately after germination to prevent plant stretch: 350 - 450 PPFD after seed sow.

- Soil Salts and pH**
- Monitoring pH and EC are critical to plant performance. Media pH should range between 5.8-6.2, and EC 0.5-3.0. See Table 1 for recommended EC.
 - Frequent media and pour-through tests will help determine appropriate EC and help with fertilizer calculations. It is good practice to calculate the base EC of the water source to add into the equation.
 - A reputable fertilizer provider will have personalized feeding recommendations based on your specific grow conditions. Follow a balanced feed plan like FloraPro Grow, FloraPro Bloom, and FloraPro Cal+Micros per their recommendations.

**Timing depends on variety, production system and environment, desired size of plants, and planting density.

- Lighting Regime**
- Unlike clonal production, seeds require higher light intensity **immediately at emergence**.
 - Seeded photosensitive plants have a biological juvenile vegetation period lasting ~4 weeks and flowering will not occur until this time has passed, regardless of the lighting regime.
 - Apply an 18:6 light cycle during the vegetative period for optimal results.

- Vegetation**
- Pot size and density used for clonal propagation can be applied to seed production.
 - Seed grown plants are more vigorous than clonal production and may require more aggressive topping and/or a shortened vegetative period.
 - Follow de-leaving schedules to ensure proper airflow for proper under-canopy maintenance.

Controlled Environment



Ideal RH
50-70%



Promote the best growth with ambient temperatures 65-80°F (will tolerate 55-90°)



The seedling and vegetative stages demonstrate the best growth at 18 hr light and 6 hr dark. The flowering stage demonstrates the best growth at 12 hr light, and 12 hr dark.

Table 1. Recommended EC (Electrical Conductivity), VPD (Vapor Pressure Deficit), Photosynthetic Photon Flux Density (PPFD), and DLI (Daily Light Integral) for indoor & greenhouse photosensitive seed productions using reverse osmosis (RO) water.

Day	1-28	29-46	47-65	66-83	80-90**
Growth Phase	Seedling / Vegetation** 4 weeks	Early Flower	Mid Flower	Late Flower	Flush / Harvest
EC	1.4-2.0		2.0-3.0		0.0-0.5
VPD	0.9 - 1.3 kPa			1.2 - 1.6 kPa	
PPFD	350-450			650-850	
DLI	22-30			28-35	

Lighting

- Management of light intensity throughout all growth phases is critical and has lasting effects on plant maturation and yield.
- We recommend 22-30 DLI (i.e., 350-450 PPFD in an 18:6 vegetative cycle) at sowing with an optimal increase to 28-35 DLI (i.e., 650-850 PPFD during the 12:12 flowering cycle), depending on inputs (e.g., CO₂) and plant health.
- The flowering cycle requires a 12:12 dark period, any interruption with light exposure during the dark period may result in a hermaphroditism event.
- Supplemental lighting is helpful during shorter day lengths or in low-light regions.

Support

Contact us directly at support@phylos.bio with any technical cultivation questions. We are available M-F 8am-5pm PST.

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