

## Petunia Dreams

(*Petunia X hybrida*)

### Germination

- Time of radicle emergence (3-5 days)
- Soil temperature 75-78°F (24-26°C).
- Keep media medium moist. Do not saturate!
- Do not cover or bury the seed.
- Light at 150-400 foot-candles may be necessary to prevent watery looking seedlings and improve germination.
- Soil pH 5.5-5.8 and soluble salts (EC) less than 0.75 mmhos/cm (2:1 extraction).
- Germination of some varieties may be improved by a 25-50 ppm N application of potassium nitrate after sowing.

### Plug Production

#### STAGE 1 Time of radicle emergence (3-5 days)

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#### STAGE 2 Stem and cotyledon emergence (7-10 days)

- Soil temperature 68-75°F (20-22°C).
- Reduce moisture levels once radicle emergence occurs! Allow the soil to dry out slightly between irrigations for best germination.
- Supplemental light from HIDs of 450-700 foot-candles for 2-3 weeks after cotyledons expand for 14-18 hours/day. This will promote early and uniform flowering.
- Keep soil pH 5.5-5.8 and EC less than 1.5 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 every other irrigation to control height.
- Apply protective fungicides for Thielaviopsis and Pythium control once in full stand.
- Use a fungicide drench for best control.

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

- Soil temperature 65-70°F (18-21°C).
- Allow the soil to dry thoroughly between irrigations but avoid permanent wilting to promote root growth and control shoot growth.
- Supplemental light from HIDs of 450-700 foot-candles for 2-3 weeks after cotyledons expand for 14-18 hours/day may be beneficial.
- Maintain soil pH 5.5-5.8 and EC less than 1.5 mmhos/cm.
- Increase feed to 100-150 ppm N from 20-10-20 alternating with 14-0-14 or other calcium/potassium nitrate fertilizer.
- Alternate feed with clear water to control plant height.
- Use DIF whenever possible, especially the first 2 hours after sunrise.
- B-Nine, A-Rest, and Bonzi are all registered for use on petunias.

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

- Soil temperature 60-62°F (16-17°C), no lower than 59°F (15°F).
- Flower delay may result if the temperature is held too low for too long, and if the plants have not initiated flowers.
- 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.
- Potassium nitrate has been shown to promote flowering in petunias.
- No ammonium nitrate feed at this temperature!
- An additional fungicide drench may be necessary at this stage.

### Growing On to Finish

#### TEMPERATURE:

**Night:** 60-62°F (16-18°C)

**Day:** 65-72°F (18-22°C)

#### LIGHT:

Maintain light levels as high as possible. 4000 - 7000 foot-candles is optimum.

## **MEDIA:**

- The media should have good aeration, drainage, and water holding capacity.
- Combinations of peat, bark, or perlite are best.
- A pH of 5.5-6.3 with a high starting charge is desired.

## **WATER:**

Petunias are sensitive to over-watering. Allow the media to dry out slightly before watering.

## **FERTILIZATION:**

Fertilize every other irrigation, alternating with 20-10-20 and 15-0-15 at 150-200 ppm.

## **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.
- Petunias are responsive to day/night temperature differential (DIF), and are shorter with a negative DIF.
- Florel will promote lateral branching when applied once plants are established.
- Petunias respond to both B-Nine and Bonzi.
- A one time Bonzi drench is effective.
- Varieties may respond differently to growth regulators.

## **Post Production Care**

### **TEMPERATURE**

Optimum temperatures for petunias are:

**Night:** 60-62°F (16-18°C)

**Day:** 65-72°F (18-22°C)

Optimum conditions may be difficult to maintain, especially if plants are displayed outside.

### **LIGHT**

Petunias are full sun plants; however a light shading may be beneficial while in packs.

### **WATER**

Do not over water as petunias are sensitive to excessive water, but do not allow plants to wilt.

## **COMMON PROBLEMS**

**Diseases:** Botrytis

**Insects:** Aphids, Thrips, Whitefly

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