

# 21<sup>st</sup> Century F<sub>1</sub> Series Phlox

*First-Ever F<sub>1</sub> Phlox Delivers Hybrid Germination & Vigor...  
Displays Terrific Color for the Showiest Displays.*

- Vigorous lateral branching makes fuller mounded plants with fantastic “flower power” from Spring ’til frost.
- Finishes fast and uniformly.
- Remains compact in a wide range of conditions... no other phlox compares.
- Easy to grow...it’s daylength neutral.
- Versatile...ideal for gardens, landscapes and containers.
- Excellent choice for Jumbo packs, 4-in. (10-cm) pots and gallons (8-in./20-cm standard pots).
- Good for Spring and southern Fall sales.
- Standard germination is 90%.

*P. drummondii*

Approximate seed count: 14,000-24,000 S./oz.  
(500-850 S./g)

## Plug Production

### Media

Use a well-drained, disease-free, soilless medium with a pH of 5.8 to 6.0 and an EC less than 0.75 (mmhos/cm with a 1:2 extraction). Phlox is very sensitive to high salts – particularly high ammonium – during germination.

### Sowing

Cover the seed thoroughly with coarse vermiculite. Darkness is required for germination. Germination takes 3 to 5 days.

### Temperature

**Germination (3 to 5 days):** 65 to 70°F (18 to 21°C)

**Cotyledon stage:** 60 to 65°F (15 to 18°C)

**True leaves:** 60 to 65°F (15 to 18°C)

**Hold plugs:** 60 to 65°F (15 to 18°C)

### Light

**Stage 1:** Darkness is required for germination.

**After germination:** 500 to 1,000 f.c. (5,000 to 10,000 Lux)

**Seedling maturity:** Up to 1,500 to 3,000 f.c. (15,000 to 30,000 Lux)

### Humidity

Maintain 95 to 100% relative humidity (RH) until radicles emerge.

### Soil Moisture

Keep soil moisture high until radicle emergence, then reduce moisture levels after the radicle penetrates the medium. Do not allow the seedlings to wilt.

### Fertilizer

As cotyledons expand, feed 50 ppm N in a nitrate form. When true leaves begin to develop, increase to 100 to 150 ppm N.

### Growth Regulators

B-Nine or A-Rest can be used to control height on phlox plugs. Do not control height by allowing plants to wilt.

## Growing On to Finish

### Media

Use a well-drained, disease-free, soilless medium with a pH of 5.5 to 6.2 and a medium initial nutrient charge.

### Temperature

**Nights:** 50 to 55°F (10 to 13°C)

**Days:** 55 to 60°F (13 to 15°C)

### Light

4,000 to 5,000 f.c. (40,000 to 50,000 Lux).

### Irrigation

Irrigate plants before they are wilted severely to avoid damage.

### Fertilizer

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

### Growth Regulators

In trials at the PanAmerican Seed research facility in Guadalupe, California, a Bonzi spray at 20 ppm three weeks after transplanting has shown to be effective at controlling height. Multiple applications or higher rates may delay flowering.

Height can also be controlled by withholding fertilizer. Phlox are responsive to day/night temperature differential (DIF), and are shorter with a negative DIF.

### Pinching

Pinching is not needed.

### Crop Scheduling

Sow to transplant (400-cell plug tray): 4 to 5 weeks

Container Size	Plants Per Pot/Basket	Weeks From Transplant
606 flat	36	6
4-in. (10-cm) pot	1	6
Gallon container (8-in./20-cm standard pot)	3	7 to 8

### Common Problems

**Insects:** No serious problems.

**Diseases:** *Rhizoctonia*, *Pythium*

### Tips for Landscapers and Gardeners

■ Space plants approximately 8 in. (20 cm) apart in well-drained soil.

■ **21<sup>st</sup> Century** phlox grows quickly to a bushy habit when planted in full sun or partial shade. Plants need at least six hours of direct sunlight for best performance.

■ Garden height is approximately 10 in. (25 cm).

# PanAmerican Seed

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