



TriTunia™ Pink Vein



TriTunia™ Blue Vein



TriTunia™ Burgundy

# TriTunia™, Frost™, Hurrah™ Petunia Culture Guide

## PETUNIA GRANDIFLORA, PETUNIA MULTIFLORA

Minimum Germination Rate: 85% pellet, 90% raw  
Seed Product Form: Pelleted, raw

### FLOWERING

**Time frame when plants are receptive to flower initiation:**  
Days 14 – 21; 3 – 4 leaves.

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

**Flowering Mechanism:** Flowering is affected by day length, irradiance and temperature.

### PLUG CULTURE

The timing approximations are based on optimal culture recommendations below:

**GERMINATION STAGE 1** (Approximately days 1 – 5)

**Tray size:** 105 to 288-cell size plug tray. One seed per cell.

**Cover:** Seed cover is not recommended. If used, apply a very thin cover of medium-grade vermiculite.

**Light:** If utilizing a chamber, providing a light source of 10 – 100 foot candles (80 – 800 lux; 2 – 15 micro mols/m<sup>2</sup>) will improve germination.

**Temperature:** Day and night: 72 – 76°F (22 – 24°C).

**Moisture:** Saturated (level 5) for days 1 – 5 or until radicle emergence.

**Relative humidity:** 95 – 100% from the time seed is sown until radicle emergence takes place, root initial has penetrated media and cotyledons appear. Expect radicle emergence in 3 – 5 days.

**Media:** pH 5.5 – 5.8. EC 0.7 – 1.0 mS/cm (saturated media extract).

**GERMINATION STAGE 2** (Approximately days 6 – 13)

**Light:** 1,500 – 2,500 foot candles (16,000 – 27,000 lux; 300 – 500 micro mols/m<sup>2</sup>). DLI (Daily light integral): 4 – 8 mols/day.

**Temperature:** 68 – 75°F (20 – 24°C).

**Moisture:** After radical emergence, alternate media between wet (level 4) and moist (level 3).

**Relative Humidity:** Lower relative humidity to 40%. Provide horizontal airflow to aid in the drying of media through evapotranspiration.

**Media:** pH 5.5 – 5.8. EC 0.7 – 1.0 mS/cm (saturated media extract).

**Fertilizers:** 14-4-14 or 17-5-17 at 50 – 75 ppm nitrogen as needed.

**PLUG BULKING** (Approximately days 14 – 28)

*The time necessary for the shoots to proportionally fill the plug and for the roots to develop throughout the media. Plug time will vary based on growing environment and culture.*

**Light:** 3,000 – 4,500 foot candles (32,300 – 48,400 lux; 600 – 900 micro mols/m<sup>2</sup>). DLI: 10 – 16 mols/day. Provide supplemental lighting if the DLI is less than 10 mols/day. During the winter months, providing day extension lighting to achieve at least a 14 hour photoperiod will reduce crop time.

**Temperature:** 65 – 68°F (18 – 20°C).

**Relative humidity:** 40 – 50%

**Moisture:** Alternate between moisture levels wet (level 4) and medium (level 2). Allow media to dry back to level 2 before re-saturating to level 4.

**Media:** pH 5.5 – 5.8. EC 0.8 – 1.2 mS/cm (saturated media extract).

**Fertilizer:** Feed established seedlings at 100 – 150 ppm nitrogen. Under high light conditions, apply an ammonium-based fertilizer (17-5-17) and under low light conditions apply a calcium-based fertilizer (14-4-14). Supply 8 – 12 ppm phosphorus, 1.5 ppm iron and 0.5 ppm boron.

**Plant growth regulators:** Apply a spray application B-Nine® (daminozide) at 3,500 – 5,000 ppm once the first true leaves have expanded. Additional spray applications of B-Nine at 2,500 – 5,000 ppm or Bonzi® at 5 – 10 ppm can be applied as needed to tone seedlings.

## GROWING ON

**Transplant ready:** 4 – 5 weeks from sow in a '288' 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 5.5 – 5.8. EC 1 – 1.5. Yellow upper leaves may indicate iron deficiencies when pH is > 6.6.

**Light:** 3,500 – 5,500 foot candles (37,700 – 59,200 lux; 700 – 1,100 micro mols/m<sup>2</sup>). DLI: 12 – 20 mols/day. Provide supplemental lighting if the DLI is less than 10 mols/day.

Petunias require long days to flower. To initiate bud under short days, extend day length to 14 hours.

**Temperature:** After transplant, petunias require temperatures > 55°F (13°C) nights for the first 6 weeks to initiate flower bud development. After bud set, the night temperatures can be lowered to 50°F (10°C) to encourage basal branching and compactness. However, lower temperatures may also substantially decrease the number of flowers initiated. Downward cupping of leaves may indicate too cool temperatures in combination with overwatering.

**Average Daily Temperature (ADT):** 67°F (19°C)

**Moisture:** Alternate between moisture levels wet (level 4) and dry (level 1). Allow media to approach level 2 before re-saturating to level 4.

**Dehumidify:** Provide horizontal airflow to aid in drying down the media through evapotranspiration under cool, low light conditions.

**Fertilizers:** Under high light conditions, apply an ammonium-based feed (17-5-17). Under low light conditions, apply a calcium-based feed (14-4-14).

Under high light and long or extended days, an ammonium-based feed (20-10-20) can be rotated into the fertilizer program.

To prevent stretching under low light and cool temperatures, reduce ammonium and apply only calcium-based fertilizer.

**Plant growth regulators:** Petunias are responsive to B-Nine (daminozide) at 2,500 – 5,000 ppm. Apply B-Nine before the buds are visible. Late applications will distort flower color and size. Also respond to DIF treatments, Bonzi (paclobutrazol), Sumagic® (uniconazol) or B-Nine/Cycocel® (chlormequat chloride) tank mix.

## DISEASES, PESTS AND CONTROLS

**Common Diseases:** *Botrytis*, *Rhizoctonia*, *Pythium*

**Common Pests:** Thrips, Aphids, Fungus gnats, Shore flies

## Recommended Plant Protection Products for Petunia

Product	Application	Target	Rate
<b>Fungicides</b>			
Daconil Ultrex® or Daconil Weatherstik®	Spray	<i>Botrytis</i>	22 oz./100 gal
Heritage®	Spray	<i>Botrytis</i>	4 – 8 oz./100 gal
Heritage	Drench	<i>Rhizoctonia</i>	0.2 – 0.9 oz./100 gal
Medallion® WDG	Spray	<i>Botrytis</i> , <i>Rhizoctonia</i>	1 – 4 oz./100 gal
Medallion WDG	Drench	<i>Rhizoctonia</i>	1 – 2 oz./100 gal
Palladium®	Spray	<i>Rhizoctonia</i> aerial blight	2 – 4 oz./100 gal
Palladium	Spray	<i>Botrytis</i>	4 – 6 oz./100 gal
Subdue Maxx®	Drench	<i>Pythium</i>	1 oz./100 gal
<b>Insecticides</b>			
Avid®	Spray	Aphids, thrips	8 oz./100 gal (8–16 fl. oz./A)
Flagship® 25WG	Spray	Aphids, fungus gnats, thrips	4 – 8 oz./100 gal
Citation®	Spray/Drench	Fungus gnats, shore flies	2.66 oz./100 gal
Endeavor®	Spray	Aphids	2.5 – 5 oz./100 gal
Mainspring™	Spray	Aphids, thrips	1 – 16 fl. oz./100 gal
Mainspring	Drench	Aphids, thrips	12 fl. oz./100 gal

## Recommended Bioline™ Biological Control Agents

Target Pest	Biological Control Agent
Aphids	Aphiline™ c, Aphiline e, Aphiline ce, Aphiline ace, Aphidoline™ aa, Chrysoline™ c
Fungus gnats	Exhibitline™, Hypoline™ m, Staphyline™
Thrips	Amblyline™ cu, Swirskiline™ as, Exhibitline sf, Hypoline m, Staphyline, Oriline™ i, Thripline™ ams

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.

## Petunia Scheduling in Weeks

Container size	Plugs per pot	Finish crop time from transplant of 288-cell trays at different ADTs (weeks)		
		55°F (13°C)	60°F (16°C)	70°F (21°C)
Packs	1	6 – 7	5 – 6	3 – 4
4-inch (10 cm), quarts	1	6 – 7	5 – 6	3 – 4
6-inch (15 cm), gallons	1	7 – 8	6 – 7	4 – 5

### PRODUCT USE

Packs, pots, containers, mass plantings

### GARDEN SPECIFICATIONS

**Light:** Full sun

**USDA Hardiness Zone:** 8

**AHS Heat Zone:** 12 – 1

For more information, please visit [www.syngentafhg.com](http://www.syngentafhg.com)



TriTunia Star Mix

Petunia	Type	Garden Height	Garden Width	Flower Size
TriTunia™	Grandiflora	12 – 14" (30 – 35 cm)	14 – 16" (35 – 40 cm)	3" (8 cm)
Frost™	Grandiflora	12 – 14" (30 – 35 cm)	14 – 16" (35 – 40 cm)	3" (8 cm)
Hurrah™	Multiflora	8 – 12" (20 – 25 cm)	12 – 14" (30 – 35 cm)	2.5" (6 cm)

### Petunia TriTunia Series — Color Range and Genetic Components

For ease and uniformity in production, the TriTunia Grandiflora Petunia Series is composed of the best performing and matching varieties from the legacy Bravo™, Ultra™ and Storm™ series plus an all-new improvement in the core White color class.

Color	Source Genetic	Color	Source Genetic
<b>Blue</b>	Bravo™ Blue	<b>Red</b>	Bravo Red
<b>Blue Star</b>	Ultra™ Blue Star	<b>Red Star</b>	Ultra Red Star
<b>Blue Veined</b>	Bravo Blue Veined	<b>Rose</b>	Ultra Rose
<b>Burgundy</b>	Ultra Burgundy	<b>Rose Star</b>	Ultra Rose Star
<b>Crimson Star</b>	Ultra Crimson Star	<b>Salmon</b>	Bravo Salmon
<b>Lavender</b>	Storm™ Lavender	<b>Salmon Veined</b>	Bravo Salmon Veined
<b>Plum</b>	Bravo Plum	<b>Sky Blue</b>	Bravo Sky Blue
<b>Pink</b>	Bravo Pink	<b>Violet</b>	Storm Violet
<b>Pink Morn</b>	Storm Pink Morn	<b>White</b>	New Genetics
<b>Pink Veined</b>	Bravo Pink Veined	<b>Mix</b>	New Composition
<b>ProFormula Mix</b>	New Composition	<b>Star Mix</b>	New Composition
<b>Purple Star</b>	Bravo Purple Star	<b>Veined Mix</b>	New Composition

**syngenta** flowers

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