
TriTunia™ Pink Vein


TriTunia™ Blue Vein


TriTunia™ Burgundy

syngenta flowers

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^2) 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^2). 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^2). 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.

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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^2). 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
Fungicides			
Daconil Ultrex® or Daconil Weatherstik®	Spray	*Botrytis*	22 oz./100 gal
Heritage®	Spray	*Botrytis*	4 – 8 oz./100 gal
Heritage	Drench	*Rhizoctonia*	0.2 – 0.9 oz./100 gal
Medallion® WDG	Spray	*Botrytis, Rhizoctonia*	1 – 4 oz./100 gal
Medallion WDG	Drench	*Rhizoctonia*	1 – 2 oz./100 gal
Palladium®	Spray	*Rhizoctonia* aerial blight	2 – 4 oz./100 gal
Palladium	Spray	*Botrytis*	4 – 6 oz./100 gal
Subdue Maxx®	Drench	*Pythium*	1 oz./100 gal
Insecticides			
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

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
Blue	Bravo™ Blue	**Red**	Bravo Red
Blue Star	Ultra™ Blue Star	**Red Star**	Ultra Red Star
Blue Veined	Bravo Blue Veined	**Rose**	Ultra Rose
Burgundy	Ultra Burgundy	**Rose Star**	Ultra Rose Star
Crimson Star	Ultra Crimson Star	**Salmon**	Bravo Salmon
Lavender	Storm™ Lavender	**Salmon Veined**	Bravo Salmon Veined
Plum	Bravo Plum	**Sky Blue**	Bravo Sky Blue
Pink	Bravo Pink	**Violet**	Storm Violet
Pink Morn	Storm Pink Morn	**White**	New Genetics
Pink Veined	Bravo Pink Veined	**Mix**	New Composition
ProFormula Mix	New Composition	**Star Mix**	New Composition
Purple Star	Bravo Purple Star	**Veined Mix**	New Composition

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