

FROST™, STORM™, ULTRA™ / PRIMETIME™

petunia grandiflora / petunia multiflora

Minimum Germination Rate: **Storm, Ultra:** 90%
Frost, PrimeTime: 85%

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.

Specific Flowering Mechanism: Flowering is affected by daylength, irradiance and temperature.

PLUG CULTURE

Germination – Optimum conditions for seedling development that begins the day the crop is sown until cotyledon expansion.

Expect radicle emergence in 3 -5 days.

Cover: Do not cover the seeds.

Media: • pH: 5.5 – 5.8
• EC: 0.75 – 1.0

Light: Light is necessary for germination. Provide a light source of 10 – 100 foot candles (100 – 1000 lux) if utilizing a chamber.

Moisture: Saturated (5) for days 1 – 3. On days 4 – 6 reduce moisture to wet (4). Reduce further beginning day 7 to medium (2).

Humidity: 100% until radicle emergence then reduce to 40%.

Dehumidify: Provide horizontal airflow to aid in drying down the media through evapotranspiration, allowing better penetration of oxygen to the roots.

Temperature: 72° – 76°F (22° – 24°C) until radicle emergence. Gradually reduce to 62° – 65°F (16° – 19°C) as cotyledons expand.

Plug Bulking/Flower Initiation – Optimum conditions during the vegetative period, beginning at cotyledon expansion, needed for the root to reach the edge of the plug cell; AND to make the plant receptive to flower initiation.

Media: • pH: 5.5 – 5.8
• EC: 0.5 – 1.0

Light: Provide 2500 – 3000 foot candles (2500 – 3000 lux). Supplemental lighting at 400 foot candles (4000 lux) for a 14 hour day will induce early flowering.

Temperature: 65° – 68°F (18° – 20°C). Once seedlings are established, gradually reduce night temperatures to 59 F (15 C) to initiate early flowering.

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

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

Humidity: 40 – 70%

Dehumidify: Provide horizontal airflow to aid in drying down the media through evapotranspiration, allowing better penetration of oxygen to the roots.

Fertilizers: Upon initial germination begin feeding early on with 50 ppm Nitrogen. Pay attention to the addition of Boron since low Boron can cause tip abortion. Feed established seedlings at 100 – 150 ppm Nitrogen. 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) is preferred. For more shoot growth, add an additional ammonium treatment to the schedule. To prevent stretching under low light and cool temperatures, reduce ammonium and apply only calcium-based fertilizer.

Growth Regulators: Apply 2 applications of B-Nine (daminozide) at 3500 – 5000 ppm after the first true leaves have appeared. Petunias are also responsive to a negative DIF treatment, Bonzi (paclobutrazol) and Sumagic (uniconazole).

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 Yellow upper leaves may indicate iron deficiencies when pH is > 6.6.
• EC: 1.0 – 1.5

Light: Petunias need long days to flower. To initiate bud under short days, extend day length to 13 hours. Under long day, low light conditions, supplemental lighting of 350 – 500 foot candles (3500 – 5000 lux) may be necessary.

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 (4) and dry (1) Allow media to approach level (1) 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) is preferred. To prevent stretching under low light and cool temperatures, reduce ammonium and apply only calcium-based fertilizer.

Growth Regulators: Petunias are responsive to B-Nine (daminozide) at 2500 – 5000 ppm. Apply B-Nine before the buds are visible. Late applications will distort flower color and size. Also responds to DIF treatments, Bonzi (paclobutrazol), Sumagic (uniconazole) or B-Nine/Cyocel (chlormequat chloride) tank mix.

Common Diseases: Botrytis, Rhizoctonia

Common Pests: Thrips

SCHEDULING

Total crop time: 9 – 11 weeks

'288' Plug crop time: 4 – 5 weeks

Transplant to finish crop time: **Packs:** 4 – 5 weeks
4" crop: 5 – 6 weeks

PRODUCT USE

Packs, pots, containers, mass plantings

GARDEN SPECIFICATIONS

Light: Full sun

USDA Hardiness Zone: 8

AHS Heat Zone: 12 – 1

'Frost', 'Storm', 'Ultra' Garden Height: 12 – 14 inches (30 – 35 cm)

Garden Width: 14 – 16 inches (35 – 50 cm)

'PrimeTime' Garden Height: 10 – 12 inches (25 – 30 cm)

Garden Width: 12 – 14 inches (30 – 35 cm)

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.