

Fuseables® Viola

(*Viola cornuta*)

Germination

Approximate seed count (precision multi-pelleted seed): 795 to 1,390 S./oz. (30 to 50 S./g)

Media

Use a well-drained, disease-free seedling medium with a pH of 5.4 to 5.8 and an EC of 0.75 mS/cm (1:2 extraction). Keep phosphorus levels as low as possible to avoid initial stretch.

Sowing

Can be produced in a 288, 180, 128 plug, 72 liner or similar size plug tray. Do not cover the seed. Water adequately after sowing to completely dissolve the pellet. Spray preventively against damping off.

Stage 1 – Germination takes approximately 3 to 4 days.

Germination temperature: 65 to 68°F (18 to 20°C).

Light: Lighting is not required but beneficial.

Media moisture: Keep soil very wet (level 5) during Stage 1 for optimal germination.

Relative humidity: Maintain 97 to 100% relative humidity (RH) until radicles emerge.

Plug Production

Stage 2

Temperature: 65 to 68°F (18 to 20°C) day and 60°F (16°C) night.

Light: Up to 2,500 f.c. (26,900 Lux).

Media moisture: Start to slightly reduce soil moisture (level 4) to allow the roots to penetrate into the media.

Fertilizer: Apply fertilizer at rate 1 (less than 100 ppm N/less than 0.7 mS/cm EC) from nitrate-form fertilizers with low phosphorous.

Stage 3

Temperature: 65 to 67°F (18 to 19°C) day and 60°F (16°C) night.

Light: Can be up to 2,500 f.c. (26,900 Lux).

Media moisture: Allow media to dry further until the surface becomes light brown (level 2) before watering. Keep the moisture to wet-dry cycle (moisture level 4 to 2).

Fertilizer: Maintain fertilizer at rate 1 (less than 100 ppm N/less than 0.7 mS/cm EC) from nitrate-form fertilizers with low phosphorous. pH can be at 5.6 to 5.8 with EC of 0.75 to 1.0 mS/cm (1:2 extraction).

Growth Regulators: If possible, try to grow Fuseables Viola without any PGRs. The competition amongst the multiple seedlings in each plug cell will provide natural growth control. Also, cooler temperatures during stage 3-4 will provide natural toning of the plugs.

If necessary, Ancymidol (A-Rest) 3 to 5 ppm (11.4 to 18.9 ml/l, 0.0264% formulation) spray works well for plug height control.

Stage 4

Temperature: 60°F (16°C) day and 55°F (13°C) night.

Light: Up to 5,000 f.c. (53,800 Lux) if temperature can be controlled.

Media moisture: Same as Stage 3.

Fertilizer: Same as Stage 3.

Growing On to Finish

Container Size

6-in. (15-cm) pot: 1 plug per pot

10 to 12-in. (25 to 30-cm) color bowls or baskets: 3 to 5 plugs per color bowl or basket.

Media

Use a well-drained, disease-free soilless medium with a pH of 5.6 to 5.8 and a medium initial nutrient charge.

Temperature

Nights: 50 to 55°F (10 to 13°C).

Days: 60 to 65°F (16 to 18°C).

Fuseables Viola can be grown at temperatures as low as 41 to 45°F (5 to 7°C). Crop timing (time to flower) is related to daily average temperature when grown under proper daylength. Plants will take longer to flower when grown under cooler conditions.

Light

Keep light levels as high as possible while maintaining moderate temperatures.

Fertilizer

Apply nitrate-form with low phosphorus fertilizer at rate 3 (175 to 225 ppm N/1.2 to 1.5 mS/cm EC) every other irrigation. Maintain media pH 5.6 to 5.8 and take corrective measures when pH is greater than 6.0. Alternate between an acidic fertilizer, such as 20-10-20, and a basic fertilizer, such as 15-5-15 calcium/magnesium for pH balance. Try to balance media pH, if needed, with an ammonium and nitrate form fertilizer.

For constant fertilizer program, apply fertilizer between rate 2 and 3 (150 to 200ppm N or 1.0-1.3 mS/cm EC) while maintaining the above recommended EC and pH ranges.

Growth Regulators

In general, Fuseables Viola requires fewer or no PGRs when grown under optimum cool circumstances Spring. Temperature control is the best natural growth controlling factor. If needed, Ancimidol (A-Rest) 5 to 10 ppm (18.9 to 37.9 ml/l, 0.0264% formulation), Daminozide (Alar/B-Nine) 2,500 ppm (3.0 g/l, 85% formulation or 3.9 g/l, 64% formulation) or Paclobutrazol (Bonzi, Piccolo) spray about 2 to 3 ppm (0.5 to 0.75-ml/l, 0.4% formulation) works well for plant size control.

Note: The use of PGRs could delay the start of flowering of Sorbet Peach Melba somewhat, and the use of Paclobutrazol (Bonzi, Piccolo) slightly influences flower size and color.

To determine the best rate for your conditions, we recommend that you run an in-house trial.

Crop Scheduling

Sow to transplant (288-cell plug tray):

4 to 5 weeks (Spring); 3 to 4 weeks (Fall)

Sow to transplant (128 / 180-cell plug tray):

5 to 6 weeks (Spring); 4 to 5 weeks (Fall)

Transplant to flower:

From 288 cells: 7 to 8 weeks (Spring); 6 to 7 weeks (Fall)

From 128/180 cells: 6 to 7 weeks (Spring); 5 to 6 weeks (Fall)

Total Crop Time:

Container Size: 6 in. (15 cm)

Plants per Pot or Basket: 1

Spring (weeks): 11-12

Fall (weeks): 9-10

Container Size: 10 to 12-in. (25 to 30-cm) color bowl or basket

Plants per Pot or Basket: 3

Spring (weeks): 11-12

Fall (weeks): 9-10

Common Problems and Diseases

Fungus gnats and shore flies can be a problem in plug stage; in growing-on phase, Aphids, thrips, mites and white flies could be a problem.

Damping-off, black root rot, foliar leaf spots and Botrytis blight are the most common diseases.

Note: Growers should use the information presented here as a starting point. Crop times will vary depending on the climate, location, time of year, and greenhouse environmental conditions. Chemical and PGR recommendations are only guidelines. It is the responsibility of the applicator to read and follow all the current label directions for the specific chemical being used in accordance with all regulations.

