Plentifall F_1 Trailing Pansy

Viola x wittrockiana
Approximate seed count: 28,000-40,000 S./oz. (1,000-1,400 S./g)

Plug Production

Media
Use a well-drained, disease-free media with a pH range of 5.4 to 5.8, and EC less than 0.75 mmhos/cm (2:1 extraction). Keep the phosphorus level as low as possible to avoid initial stretch.

Sowing
Plug Tray Size
Can be produced in a 128-cell size liner with 1-seed per cell (A bigger cell size liner such as 128 will help in promoting branching early-on and also will reduce the total crop time). Plentifall can also be produced in a 288-cell size plug.

A medium covering of coarse-grade vermiculite is recommended at sowing to help maintain humidity around the germinating seed for better germination performance.

Stage 1 – Germination takes approximately 3 to 4 days.
Germination temperature: 65 to 70°F (18 to 21°C)
Light: Light is not required for germination.
Moisture: Keep the soil wet (level 4) during Stage 1
Relative humidity: Maintain 95 to 97% relative humidity until cotyledons emerge.

Stage 2
Temperature: 65 to 73°F (18 to 22°C) days; 60°F (16°C) nights
Light: Can be up to 2,500 f.c. (26,900 Lux).
Media Moisture: Keep the media medium (level 3) to medium wet (level 4).
Fertilizer: Apply fertilizer at rate 1 (less than 100 ppm N/less than 0.7 mS/cm EC) with a nitrate-form fertilizer with low phosphorous.

Stage 3
Temperature: 65 to 70°F (18 to 21°C) days; 60°F (16°C) nights
Light: Can be up to 2,500 f.c. (26,900 Lux).
Media Moisture: Keep the media medium wet (level 3) during Stages 3 and 4.
Fertilizer: Increase the fertilizer rate to 2 (100 to 175 ppm N/0.7 to 1.2 mS/cm EC). Maintain a media pH of 5.4 to 5.8 and EC at 0.7 to 1.0 mS/cm (1:2 extraction). A higher pH (greater than 6.2) can induce Boron deficiency and also can encourage fungal black root rot caused by *Thielaviopsis sp.*

Stage 4
Temperature: 62 to 67°F (16 to 19°C) days; 55°F (12°C) nights
Light: Light levels can be up to 5,000 f.c. (53,800 Lux) if temperatures can be maintained.
Fertilizer: Same as Stage 3.

Plant Growth Regulators
Can treat with a foliar spray of A-Rest (ancymidol) at 10 ppm (38 ml/l of 0.0264% formulation) once during the plug stage at about 3 weeks after sowing, when the first set of true leaves are fully open.

Northwestern Europe: Will need less PGR than regular Pansies. If needed can treat with a foliar spray of B-Nine/Alar (daminozide) at 1,280 ppm (1.5 g/l of 85% formulation or 2 g/l of 64% formulation) applied once.

Transplant the plugs “on time” to avoid flower bud initiation in the plug stage. Plugs that are initiated will not fill out the finish container well at the time of flowering.

Growing On to Finish

Container Size: 4-in. (10-cm) pots, Quarts, and 10 to 12-in. (25 to 30-cm) or similar size hanging baskets.

Media
Use a well-drained, disease-free media with a pH of 5.4 to 5.8 and a medium initial nutrient charge.

Temperature
Night: 50 to 55°F (10 to 12°C)
Day: 62 to 70°F (16 to 21°C)

Light
Keep light levels as high as possible while maintaining appropriate temperatures.

Fertilizer
Starting a week after transplant, apply fertilizer at rate 3 (175 to 225 ppm N/1.2 to 1.5 mS/cm) once a week using predominantly nitrate-form fertilizer with low phosphorus. If needed, alternate with a balanced ammonium and nitrate-form fertilizer to encourage growth and balance the media pH. Maintain the media EC at 1.50 to 2.00 mS/cm and

pH at 5.4 to 5.8. If the media pH is greater than 6.2, then take corrective measures.

Irrigation
Maintain optimal media moisture, i.e. not too wet or not too dry.

Plant Growth Regulators
The use of plant growth regulators on pansies is largely dependent on day/night temperatures, location, time of the year, and size of the finishing container.

Since this is a trailing type pansy and mostly grown in larger containers such as hanging baskets, minimal to no plant growth regulators are needed. But if needed, can use tank mix foliar sprays of B-Nine/Alar (daminozide) at 5,000 ppm (5.9 g/l of 85% formulation or 7.8 g/l of 64% formulation) and Cycocel (chlormequat) at 500 ppm (4.3 ml/l of 11.8% formulation or 0.7 ml/l of 75% formulation) to control plant growth. One application at 2 weeks after transplant will be sufficient.

Northwestern Europe: Can use a tank mix foliar spray of B-Nine/Alar and Cycocel applied once after transplant. Apply B-Nine/Alar (daminozide) at 1,280 ppm (1.5 g/l of 85% formulation or 2 g/l of 64% formulation) and Cycocel at 750 ppm (6.4 ml/l of 11.8% formulation or 1 ml/l of 75% formulation) as a tank mix.

Temperature is the best natural growth-controlling factor. Minimal to no plant growth regulators are needed when the crop is being produced at cooler temperatures especially during the Spring.

Pinching
Pinching is not required

Crop Scheduling

Sow to transplant: It takes approximately 6 weeks to finish a 128-cell size liner. A 288-cell size plug will finish a couple of days earlier.

Transplant to finish from a 128-cell liner:

Container	Plants/pot	Weeks from Transplant to finish	
		Autumn	Spring
4-in. (10-cm), Quart	1 plant per pot	4 to 5	6 to 7
10 to 12-in. (25 to 30-cm) hanging basket	5 to 7 plants per pot	6 to 8	8 to 10

Total crop time to finish can be 7-10 days longer when grown from a smaller size plug such as a 288-cell size.

Northwestern Europe: Total crop time to finish in 4-in. (10-cm) pots for Fall production can be approximately 14 weeks from sow and 21-22 weeks from sow for Spring production. If producing in bigger containers such as hanging baskets, then it may take approximately 3 weeks additional crop time to finish.

Common Problems
Insects: Check/monitor for Fungus Gnats and shore flies during plug production and for Aphids during early stages after transplant.
Disease: Damping-off & Black root rot. Regular scouting for powdery mildew and preventative measures are recommended.

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.

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