

Family: Violaceae
Use: Outdoor containers, pot and pack, suitable for borders and beds.
Plant type: Biennial
Height in pot: 10-15 cm (4-6 in.)
Garden height: 15-20 cm (6-8 in.)

Seed count: 1,100-1,400 seeds/gram (31,000-40,000 seeds/oz)
 Seed count varies by variety and seed lot
Seed form: Raw.

Germination:

Emergence of seeds in 5-8 days at 18-24°C (65-75°F) sow the seeds in a well moistened soil mix with a pH between 5.8-6.0 EC 0.5-0.75.

Seeds may be covered with a medium layer of coarse vermiculite which helps maintain moisture levels. After cracking of the seed coat, start watering and maintain a soil temperature of 18-20°C (65-76°F) soil EC 0.5-0.75. avoid ammonium based fertilizers, these will promote stretching of seedlings and long thin roots. If media conditions are too dry, this may result in non-uniform germination.

Light is not necessary for the germination process, however low light conditions will promote stretching of the seedlings.

Plugs:

If roots and stem are developing and the cotyledons have expanded, gradually reduce the soil moisture levels. Just lower media temperature to 17-22°C (62-74°F) lightly fertilizer with 50-75 ppm nitrogen with a calcium based fertilizer. Soil EC 0.5-0.75 when the roots are penetrating and start to fill in the plug cell and the first true leaves have developed, lower the temperature to 15-20°C (59-68°F) increase fertilizer up to 75-100 ppm nitrogen. Soil EC 0,75-1.0 Viola are more sensitive to high salts, therefore it's impotent to avoid EC levels exceeding 1.5. soil pH 5.8-6.0. when the roots are well developed and the shoots have 2-4 sets of true leaves, reduce the night temperatures 13-16°C (55-63°F) to initiate early flowering temperatures of 15°C (59°F) and lower make a hardier plant.

Growing on:

After 4-5 weeks seedlings can be transplanted in a well-drained media with a pH of 5.8-6.0.

Allow media to dry slightly between waterings. Do not allow plants to wilt. Plants can be grown at 10-15°C (50-59°F) or as cool as possible during warm weather conditions. Fertilize regularly 100-150 ppm with a calcium-based fertilizer. An application of ammonium nitrate helps to expand the leaves. During cool weather production, ammonium based feeds may encourage root rot problems. A high concentration of nitrogen may promote stretching.

Growth regulators:

Viola responds to: Daminozide, (Dazide, B-nine) Chloromequat (Cycocel) and paclobutrazol (Bonzi).

Pests:

Check/monitor for Fungus Gnats and shore flies during plug production and for Aphids during early stages after transplant.

Diseases:

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

Scheduling:

	<i>Planting</i>	<i>Flowering</i>
<i>Growing</i>		
Greenhouse	mid August mid October	October-November February-March
Outside	early-mid August early-mid September	October-November March