# Viola ColorMax

**Cultural Information for:** Viola ColorMax Annual
**Common Name:** Viola
**Botanical Name:** Viola hybrid
**Seed Count:** 25,500/oz. 900/gram
**Optimum Germination Temperature:** 64-68°F / 18-20°C
**Optimum Growing Temperature:** 55-65°F / 13-18°C
**Optimum pH:** 5.5 – 6.0
**EC – Plug:** 0.4 – 0.8 mmhos/cm **(1:2) /** 0.9 – 2.0 **(SME) /** 1.1 - 2.6 **(Pour Thru)**
**EC – Finishing:** 0.9 – 1.3 mmhos/cm **(1:2) /** 2.1 – 3.5 **(SME) /** 2.7 - 4.6 **(Pour Thru)**

## Plug Culture – 4 weeks (288 / 12 x 24 tray)

**Stage One** (days 1-8) Sow viola seed in a well-aerated plug and cover lightly with a medium or coarse vermiculite. After sowing, water the plug flats well and maintain a soil temperature between 64-68°F/18-20°C. The use of primed seed and a germination chamber with a fine mist system to maintain moisture is ideal.

**Stage Two** (days 9-15) When using a germination chamber, remove viola plug flats when the seed coat is cracked. When green begins to appear in the flat, apply 75 ppm N from a well-balanced fertilizer. Target 0.25 ppm of boron when fertilizing to avoid boron deficiency. Maintain temperatures as cool as possible with good air-flow. Light levels should be maintained up to 5,000 foot candles/54,000 lux but avoid heat and water stress. After the initial feed, begin fertilizing with 200 ppm N from a well-balanced fertilizer containing trace elements. A calcium nitrate-based fertilizer works well to build strong compact plants.

**Stage Three** (days 16-24) When plug trays begin to fill in, reduce the nitrogen level. When applying fresh water, (no fertilizer), still apply trace elements; especially boron, and keep water alkalinity at 60-80 HCO3 to maintain soil pH between 5.5 and 6.0. Fertilizer concentrations can be reduced to 150 ppm N but maintain trace elements at full strength; especially boron at 0.25 ppm. Ideally, viola plug flats should be given higher light levels to control stretch. Moving plants outdoors under a saran house will reduce temperatures and provide optimal air movement. Viola ColorMax is day length neutral and sets buds early; especially under the long days and warm conditions of early fall. It is best to transplant earlier rather than apply growth regulators.

**Stage Four** (days 25-28) Plug flats are approaching market size. During periods of hot and humid weather, or before shipping plugs in a box or truck, apply a preventative fungicide to control anthracnose.

***Never delay transplanting into pots. Root bound plugs will bud prematurely with poor plant canopy; especially under long day and warm temperature conditions.***

## Transplanting: 5-6 weeks

**Media:** Transplant plugs into a well aerated soil mix with a low nutrient charge. Avoid planting the plugs too deep to prevent stem rot.

**Temperature:** Optimum day temperature is 62-68°F/ 17-20°C with nights at 50-55°F/10-13°C.

**Fertilizer:** Fertilize at 150-200 ppm of N from a well-balanced fertilizer to ensure a healthy start. Violas are sensitive to boron deficiency, characterized by deep green foliage, crinkled foliage and tip abortion. It is recommended to supply 0.25 of boron at each watering. Be sure to check the boron level in your water supply to avoid oversupplying this microelement. Special pansy/viola fertilizers are available to supply optimum amounts of microelements when lower nitrogen rates are used.

**Growth regulator:** In the early fall season under warm temperature conditions Viola ColorMax set buds early and should not be checked in the plug tray or finished container. Providing optimum temperatures, high light, good air movement and low ammonium promotes compact plants. If needed, B-Nine® (daminozide), Cycocel® (chlormequat), and A-Rest® (ancymidol) are effective chemicals to control growth.

**Pests:** Violas are not usually affected by major pests but occasionally aphids and whiteflies may infest plants.

**Diseases:** Thielaviopsis or black root rot can be a problem early in the season when temperatures are high. Research has shown that the disease can not survive at a pH of 5.5 or lower. Also, high ammonium levels and the use of the chemical Subdue will encourage the development of this disease. Anthracnose or leaf spot can be a problem during periods of high heat and humidity. Foliar applications of an appropriate fungicide will help control this disease.

**Crop Timing:***

| Container Size | Total Crop Time |
|---|---|
| Cell packs | 9 – 10 weeks |
| 4 inch / 10 cm. | 10 – 11 weeks |

***In late summer under high light and warm temperature conditions, reduce crop time by 1-2 weeks.***

*"All information given is intended for general guidance only and may have to be adjusted to meet individual needs. Cultural details are based on North America conditions and Sakata cannot be held responsible for any crop damage related to the information given herein. Application of recommended growth regulators and chemicals are subject to local and state regulations. Always follow manufacturer's label instructions."*

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