Viola cornuta F_1

Admire®

Family: Violaceae

Product Use: Packs, pots, mixed containers, landscape/mass plantings

Minimum Germination Rate: 90 %

Seed Form: Raw & BeGreen Primed

FLOWERING

Flowering Type: Facultative long day plant. Long days will also enhance flowering.

Flowering Mechanism: Day length and irradiance are the primary mechanisms that initiates flowering. High light intensity, 12-18 mol/m^2/day (3,500-5,000 ft.candles or 35,500-50,000 lx) will initiate flowering once plants reach 2-3 true leaves. Cool night temperatures below 15 °C will promote early flowering.

PLUG CULTURE

Germination: Maintain optimal conditions for seedling development, should begin on the day of sowing until root emergence. Expect root emergence in 3-4 days.

Cover: Cover lightly with a thin layer of coarse vermiculite.

Sowing method: 1 seed per plug.

Media: pH 5.5-5.8; EC < 0.5.

Temperature: Maintain 18-22 °C until root emergence, then lower the temperature gradually to 17-18 °C. Once cotyledons are fully expanded the temperature can be reduced further to 16.5-17 °C.

Moisture: Begin with saturated (5) for days 1-5 and then reduce to a moist (3) on day 6. As the seedlings become fully developed with expanded cotyledons the moisture level can be decreased further to a medium (2) on day 9. At this point alternate between a wet (4) and a medium (2) between watering.

Humidity: 95-100 % until day 5; then reduce to 40-60 % to prevent hypocotyl stretch. Provide proper ventilation and horizontal airflow to improve oxygen levels in the media.

Light: Light is not necessary for germination to occur. If using a germination chamber providing a light source of 10-100 ft. candles (100-1,000 lx) will improve germination and overall quality. Going into the second stage of germination, on approximately day 6-7 the light levels can be increased to 6-8 mol/m^2/day (2,000-2,500 ft. candles or 20,000-25,000 lx). This is after germination is finished.

Fertilizer: Begin feeding early using a calcium based fertilizer at lower rates to keep an adequate amount of calcium and nitrogen supplied to the seedlings. On days 5-7 begin feeding with a calcium based fertilizer (14-2-14; 13-2-13; 15-5-15 or 17-5-17) at 50-60 ppm. Maintain the EC between 0.5 and 0.75. Keep phosphorous levels between 6-8 ppm and boron supplied at 0.5 ppm.

Plug Bulking and Flower Initiation: Maintain optimal conditions during the vegetative stage from cotyledon expansion to flower initiation. When the seedlings root to the edge of the plug

and reach the 4-6 true leaf stage, flower initiation will occur.

Media: pH 5.5-5.8. Maintain pH levels in the lower range to avoid outbreaks of thielaviopsis and boron deficiencies which may cause tip abortion. EC 0.75-1.0; keeping the EC less than 1.5 can help control outbreaks of thielaviopsis and other root problems.

Light: The light levels need to be at 12-18 mol/m^2/day, 3,500-5,000 ft. candles (35,000-50,000 lx). If high temperatures are experienced lowering the light level slightly to 8-10 mol/m^2/day (2,500-3,000 ft. candles or 25,000-30,000 lx) can help to further bulk the plug.

Temperature: Maintain 18 °C nights, 18-21 °C days. When seedlings are well established the night temperature can be lowered to 15 °C to tone the plants. An average daily temperature of 19.5 °C will give the fastest finish.

Moisture: Alternate between a wet (4) and a medium (2) between watering. Let plants reach a medium before re-saturating to a wet (4). Avoid reaching a dry (1) since this can promote root problems.

Fertilizer: Continue feeding with calcium based fertilizers (14-4-14, 15-5-15 and 17-5-17) at 100-150 ppm. Keep phosphorous levels between 8-10 ppm and boron levels at 0.5 ppm in the irrigation water.

Growth Regulators: Several growth regulators can be used successfully to prevent hypocotyls stretch and control plants from getting soft growth. Some commonly used growth regulators are: B-Nine (daminozide) used as a spray at 2,500-5,000 ppm; A-Rest (ancymidol) used as a spray at 3-4 ppm. At times tank mixes are used combining B-Nine and A-Rest and B-Nine with Cycocel. These combinations tend to give longer lasting effects. Pansies are also very responsive to a DIF of 3 °C.

Fungicides: Preventative drenches can be made with fungicides for the control of thielaviopsis and other soil borne diseases.

GROWING ON

Transplant Ready: Under optimal conditions plugs are ready at 4 weeks.

Media: pH 5.5-5.8; keep the pH in the lower range. This will help control the outbreak of thielaviopsis. EC 1.25-1.5.

Light: Provide 14-22 mol/m^2/day (4,000-6,000 ft. candles or 35,000-50,000 lx).

Temperature: Maintain 20-21 °C nights, 18-19 °C days for the first 14 days or until the roots reach the bottom of the container. Thereafter temperatures may be lowered to 16-18 °C day and night. An ADT (average daily temperature) of 19 °C will give the fastest finished crop. Night temperatures below 15 °C will enhance flowering.

Moisture: Alternate between moisture levels wet (4) and medium (2). Let plants reach a medium (2) before resaturating to a wet (4).

Humidity: 40-60 % humidity is ideal.

Fertilizer: Fertilize with a calcium-based feed 14-4-14; 15-5-15 or 17-5-15 at 100-150 ppm as needed. Phosphorus levels should be between 8-12 ppm and boron between 0.5-0.75. Keeping the EC below 1.5 will help prevent root problems.

Growth Regulators: B-Nine (daminozide) used as a spray at 2,500-5,000 ppm, A-Rest (ancymidol) used as a spray at 3-4 ppm. At times tank mixes are used combining B-Nine and A-Rest and B-Nine with Cycocel (chlormequat chloride). These combinations tend to give longer lasting effects.

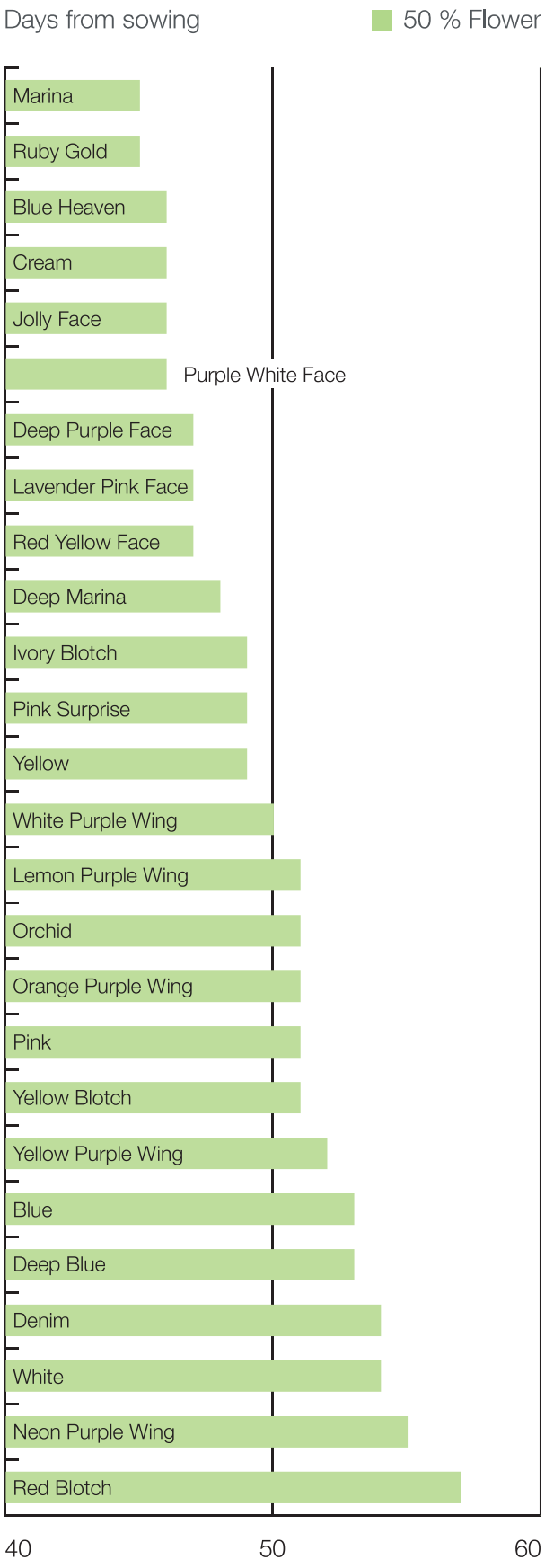
Fungicide: Apply fungicides as needed to control root and foliar diseases. Follow the labeled recommended rates.

Common Diseases: Botrytis, alternaria leaf spot, downy mildew, thielaviopsis root rot and rercospora leaf spot.

Pests: Primarily aphids and ahrips.

Post Harvest: Fertilize with potassium nitrate at 150 ppm 1-2 weeks prior to shipping.

Timing Admire® Fall



Timing Admire® Spring