

Bingo® & Panola® Series Pansy

A Terrific Team of Pansy Performers!

■ The medium-flowered **Panola**® series is the ultimate multi-season garden and landscape series that combines the best characteristics of pansies and violas. Free-flowering and early-blooming, **Panola** plants are well-branched with a compact habit, and maintain their 6 to 8-in. (15 to 20-cm) garden height without stretching in warm climates.

■ Early-flowering and large-blooming **Bingo**® varieties are a favorite with growers and gardeners. Compact plants have an abundance of large “look up” blooms for a consistent color show in the pack and in the garden. It’s *the* Autumn pansy choice.

Viola x wittrockiana

Approximate seed count: 20,000-31,500 S./oz.
(700-1,100 S./g)

Plug Production

Plug Tray Size

Use 406-cell plug trays. Finish time is about 5 weeks.

Media

Use a well-drained, disease-free seedling medium with a pH of 5.4 to 5.8. Avoid plug media mixes with a high initial nutrient charge. Keep phosphorus levels as low as possible to avoid initial stretch.

Sowing

A medium covering of coarse grade vermiculite is recommended to help maintain high humidity around the germinating seed for better germination performance. Bench germination takes 3 to 4 days. Chamber germination will yield better results.

For optimal germination performance, maintain the plug media at “wet” moisture levels, i.e., the media is glistening, but water will not ooze out from the bottom of the tray and will penetrate only slightly from the top around the fingertip. Avoid germination temperatures above 70°F (21°C) to prevent seedling stretch.

Stage 2 timing: 10 days

Stage 3 timing: 14 days

Stage 4 timing: 7 days

Temperature

Germination: 68°F (20°C)

Stage 2: 65 to 70°F (18 to 21°C) days; 60°F (15°C) nights

Stage 3: 65°F (18°C) days; 60°F (15°C) nights

Stage 4: 60°F (15°C) days; 55°F (13°C) nights

Water

Beginning at Stage 3, reduce the moisture level in the media once the seedlings are established. Stage 4 plugs can be grown under wet/dry cycles to tone the seedlings and avoid soft growth.

Light

Light is not required for germination. Quality seedlings can be produced with light levels up to 3,000 f.c. (30,000 Lux).

Humidity

Maintain 95 to 97% relative humidity.

Fertilizer

Beginning at Stage 3, start fertilizing the seedlings twice a week with 50 ppm N from 14-0-14, alternating with a 20-10-20 type fertilizer for pH balance and supplying the required calcium. Increase the nitrogen concentration to 100 ppm after a week, and continue this program until finishing the plugs.

Maintain an EC of 0.5 to 0.75 mmhos/cm and a pH of 5.4 to 5.8 at Stage 2; at Stage 3 and 4, EC and pH values can be at 1.0 and 5.6 to 5.8, respectively. If the pH of Stage 4 plugs is higher than 6.0, fertilize with iron sulfate at 1 lb. per 100 gallons. Rinse the foliage off well to prevent burn. A high pH (>6.0) can induce boron deficiency and also encourages fungal black root rot, caused by *Thielaviopsis sp.*

Growth Regulators

A foliar spray of A-Rest at 10 ppm is recommended for plug production. One application is sufficient, applied when the first set of true leaves is fully developed (when plugs are approximately 3 weeks old). If necessary, the foliar spray can be applied a few days earlier than week 3.

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

Growing On to Finish

Container Size

606 jumbo cell packs

Media

The level of starter nutrient charge incorporated into the growing mix influences crop quality. Too low a starter charge can result in a pansy crop that will flower before enough foliage has grown to fill the packs/container. Incorporate a medium level of supplemental nutrient charge in the growing media mix to encourage good foliar growth before the crop flowers.

Temperature

Provide day temperatures of 60°F (15°C) and night temperatures of 50 to 55°F (10 to 13°C) for greenhouse production.

Light

No supplemental lighting is required.

Fertilizer

A week after transplant, begin fertilizing with 150 ppm N once a week when grown in the greenhouse. Additional fertilization may be needed if grown outside. Maintain an EC of 1.5 and a pH of 5.6 to 5.8 after transplant until finish. Alternate between an acidic fertilizer, such as 20-10-20, and a basic fertilizer, such as 15-5-15 calcium/magnesium, for pH balance. If the media pH is greater than 6.0, apply iron sulfate at 1 to 2 lbs./100 gallons to drop the pH. Rinse the foliage off well to prevent burn.

Growth Regulators

The use of plant growth regulators on pansies is largely dependent on day/night temperatures, location and time of year. If the day/night temperatures are optimal, i.e., not too high for pansy production (days in 60s°F (16 to 20°C) and nights in 50s°F (11 to 15°C)), then foliar sprays of A-Rest at 10 to 20 ppm, applied 2 to 3 times beginning a week after transplant with 7 to 10 days interval, will work. When grown under warmer day/night temperatures, tank mix foliar sprays of B-Nine at 5,000 ppm and Cycocel at 1,000 ppm, or B-Nine at 5,000 ppm and A-Rest at 10 ppm applied 2 to 3 times beginning a week after transplant with 7 to 10 days interval will also work.

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

To produce the best quality pansies, grow them outside beginning a week after transplant under cold frame-type conditions. Optimal outside growing temperatures are 60 to 70°F (15 to 21°C) days, and nights in the low 50s°F (11 to 15°C) for the first few weeks. Pansies can also tolerate lower night temperatures – in the 40s°F (5 to 9°C).

Crop Scheduling

Sow to transplant: 5 weeks in a 406-cell plug tray.

Transplant to finish in 606 jumbo cell pack: 4 to 9 weeks seasonally.

Total crop time to flower: 9 to 14 weeks seasonally.

Common Problems

Insects: Fungus gnats and shore flies can be problem pests during plug production. Aphids, thrips, mites and whiteflies can be a problem during finishing stages.

Diseases:

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

PanAmerican Seed

PanAmerican Seed Co.
622 Town Road, West Chicago, Illinois, USA 60185-2698
630 231-1400 Fax: 630 231-3609 www.panamseed.com

™ denotes a trademark of and ® denotes a registered trademark of Ball Horticultural Company in the U.S. It may also be registered in other countries.

© 2003 Ball Horticultural Company

Printed In USA

PAS03010 1/03