

# GrowerFacts

## Begonia hybrida Gryphon

(Begonia x hybrida)

### Germination

Approximate seed count (multi-pelleted): 28,500 S./oz. (1000 S./g)

**Germination takes approximately 10 to 12 days.**

**Germination temperature:** 72 to 78°F (22 to 26°C).

Prefers warmer temperature but can also germinate well 72F (22C).

**Light:** Light is required.

**Media Moisture:** Keep the media moisture (level 5) during germination. Gryphon is very sensitive to drying out during early stages of germination.

**Relative Humidity:** Maintain 95 to 97% relative humidity until cotyledons emerge.

A saturated media and high relative humidity is critical to germinate successfully.

### Plug Production

#### Media

Use a well-drained, disease-free, soilless medium with a pH of 5.8 to 6.2 and a medium initial nutrient charge (EC 0.5 mmhos/cm with a 1:2 extraction).

#### Sowing

Plug Tray Size: Sow one pelleted seed per cell in 288 or larger plug tray. In Europe, 264-cell trays can be used. Water thoroughly at sowing to completely dissolve the pellet. Do not cover the pellet at sowing.

**Stage 1** – Germination takes approximately 10 to 12 days.

**Germination temperature:** 72 to 78°F (22 to 26°C).

Prefers warmer temperature but can also germinate well 72F (22C).

**Light:** Light is required.

**Media Moisture:** Keep the media moisture (level 5) during germination. Gryphon is very sensitive to drying out during early stages of germination.

**Relative Humidity:** Maintain 95 to 97% relative humidity until cotyledons emerge.

A saturated media and high relative humidity is critical to germinate successfully.

#### Stage 2

**Temperature:** Optimum 71 to 76°F (21 to 24°C)

**Light:** Up to 2500 f.c. (26,900 Lux)

**Media Moisture:** Keep the media very wet (level 5) to medium wet (level 4) during stage 2. Keep soil moisture high and maintain uniform media moisture. Do not stress plugs.

**Fertilizer:** Begin fertilization at 5 days out of the germination chamber. Start with 50-75 ppm N from ammonia-form fertilizer, 2 to 3 times per week increase slowly to 100 ppm. Maintain a media pH of 5.8 to 6.2.

#### Stage 3

**Temperature:** 68 to 73°F (20 to 22°C)

**Light:** Up to 5,000 f.c. (54,000 Lux).

**Media Moisture:** Keep media medium wet to medium (level 4 to 3). Do not allow the seedlings to wilt.

Maintain uniform media moisture until the true leaves appear; then allow media to dry out slightly between waterings. Do not stress plugs.

**Fertilizer:** Increase the fertilizer rate to 2 (100 to 175 ppm N/ 0.7 to 1.2 mS/cm EC), 2 to 3 times per week. Alternate fertilizers from ammonia-form to nitrate-form. Maintain a media pH of 5.8 to 6.2 and EC at 0.7 to 1.0 mS/cm (1:2 extraction).

#### Stage 4

**Temperature:** Can be decreased to 65 to 67°F (18 to 19°C)

**Light:** Up to 5,000 f.c. (54,000 Lux)

**Media Moisture:** Moisture level can be reduced to medium dry (level 3). Avoid excess humidity later in the plug production, as this will create conditions favorable for disease incidence.

**Fertilizer:** Same as stage 3.

#### Growth Regulators:

Not needed.

### Growing On to Finish

#### Media

Use a well-drained, disease-free, soilless medium with a pH of 5.4 to 6.0 and electrical conductivity (EC) of 1.0 mmhos/cm.

#### Temperature

**Nights:** 62 to 67°F (16-19°C)

**Days:** 65 to 75°F (18 to 24°C)

#### Light

Light level from 3,000 to 7,000 f.c. (32,400 to 75,600 lux).

#### Photoperiod

Gryphon is a foliage plant, but plant could flower when grown under a daylength of 11 hours or shorter. Under daylength longer than 11 hours, flowering will be significantly delayed or plants will never flower.

#### Irrigation

Avoid both excessive watering and drought.

#### Fertilizer

Apply fertilizer at rate 3 (175 to 225 ppm N/1.2 to 1.5 mS/cm) once a week as soon as the plugs have begun to root out. A balanced ammonium and nitrate-form fertilizer may be applied as needed to encourage growth and balance the media pH.

#### Growth Regulators

Generally, PGRs are not needed. But if necessary, a tank mix of B-Nine/Alar (daminozide) 2,500 ppm (3.0 g/l 85% formulation or 4.0 g/l of 64% formulation) and Cycocel (chlormequat) 300 ppm (2.5 ml/l 11.8% formulation or 0.4 g/l of 75% formulation) or B-Nine/Alar alone (for cooler area) can be used at 2 weeks after transplanting. Avoid using CCC alone as it can cause phytotoxicity. Also caution with Bonzi, Topflor, and Sumagic as they can stunt plants.

**North Europe area:** No PGRs needed, but if necessary we've had the best results with a mix of BNine/



Alar 3200 ppm (3.7 g/l 85% formulation or 5.0 g/l of 64% formulation) and CCC 375 ppm (3.1 ml/l 11.8% formulation or 0.5 g/l of 75% formulation)

**NOTE:** In-house trials are recommended to determine the best rates for your location. Always follow current manufacturer label instructions.

#### **Pinching**

No pinching is required.

#### **Crop Scheduling**

**Sow to transplant (288 cell plug tray):** 8 to 9 weeks

**Container Size:** 4- 5-in. (10-12 cm) pot

**Plants Per Pot/Basket:** 1

**Weeks From Transplant:** 5-6

**Container Size:** 6-in. (15-cm) pot

**Plants Per Pot/Basket:** 2-3

**Weeks From Transplant:** 5-6

**Container Size:** 8-in. (20-cm) pot

**Plants Per Pot/Basket:** 3

**Weeks From Transplant:** 7-8

**Container Size:** 10-12-in. 25-30 cm pot

**Plants Per Pot/Basket:** 3-4

**Weeks From Transplant:** 9-11

#### **Common Problems:**

**Gryphon** begonias are quite disease and pest-free.

No major problems will occur if using good cultural and IPM practices. A wide range of insecticides have been tested on **Gryphon** plants with little or no phytotoxicity.

**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.

*Ref.: May 7, 2013*

*<http://www.panamseed.com/advancedsearch.aspx?srch=begonia>*

