GrowerFacts

New Guinea Impatiens Divine™

(*Impatiens hawkeri*)

Germination

Approximate seed count: 15,800 S./oz. (558 S./g)

Media
Use a well-drained, disease-free seedling medium with a pH of 5.8 to 6.2. A pH below 5.8 may cause iron and manganese toxicity. Maintain EC of about 0.75 mS/cm (1:2 extraction).

Sowing
The recommended plug sizes are 288 to 128-cell. Water adequately after sowing. Maintain high relative humidity around the seed.

Stage 1 - Germination takes approximately 5 to 8 days, at 77 and 74°F (23 and 25°C), respectively. Keep plug tray in germination chamber until 80% radicle emergence.

Soil temperature: 74 to 77°F (23 to 25°C) with 77°F (25°C) being the best for emergence and uniformity. Cooler temperatures will negatively impact seed emergence and uniformity. Avoid temperatures in excess of 86°F (30°C).

Light: Light may be beneficial.

Moisture: Keep soil saturated with moisture (level 5) during Stage 1.

Humidity: Maintain 100% relative humidity (RH) during stage 1.

Plug Production

Stage 2
Air temperatures: 70 to 74 oF (21 to 23°C)

Soil temperature: 72°F (22°C)

Light: Up to 2,500 f.c. (26,900 Lux) (DLI 5 to 8 moles•m^{-2}•d^{-1})

Moisture: Maintain high moisture (cycle between levels 3 to 4) until late Stage 2.

Fertilizer: Apply fertilizer at 50 to 75 ppm N/0.4-0.6 mS/cm EC) from nitrate-form fertilizers with low phosphorous, such as 13-2-13 or 17-5-17.

Stage 3 to 4

Air temperatures: 70 to 74 oF (21 to 23°C)

Soil temperature: 72°F (22°C)

Light: Up to 5,000 f.c. (54,000Lux). High daily light integral (= 10 moles•m^{-2}•d^{-1}) improves plug quality and reduces total crop time.

Moisture: Keep wet-dry moisture cycle between levels 3 and 4. Avoid seedling wilt or excessive moisture. New Guinea impatiens cannot tolerate wilt.

Humidity: Lower relative humidity, but maintain at a minimum of 75%, especially at night.

Fertilizer: Increase fertilizer to 50-75 ppm N/0.5 to 0.6 mS/cm EC. Provide P at 8 to 10 ppm constantly. Maintain medium pH 5.8 to 6.2 and EC between 1.0 and 1.5 mS/cm (1:2 extraction).

Growth Regulator: Negative DIF and DROP work very well for New Guinea impatiens height control. If necessary, Daminozide (B-Nine, Alar) can be applied as a spray at 1,250 ppm at first true leaf, followed by rates as high as 3,750ppm if conditions warrant. Paclobutrazol (Bonzi, Piccolo) spray at a low rate (0.5 to 1) is also effective at first true leaf stage.

Transplanting
Flowering may be delayed from crowded conditions in a plug tray. Do not allow plugs to get root bound.

Growing On to Finish

Container Size
Divine New Guinea impatiens are best suited to 306 premium packs, 1801 flats, 4-in. (10-cm) to 6-in. (15-cm) pots and hanging baskets.

Media
Use a well-drained, disease-free growing medium with a pH of 5.8 to 6.2. A pH below 5.8 may cause micronutrient toxicity from iron and manganese.

Temperature
Maintain air temperature at 68 to 76°F (20 to 24°C) day and 65 to 68°F (18 to 20°C) night from transplant to sale. Maintain an average daily temperature (ADT) of 73°F (23°C). Warmer temperatures hasten flowering

but reduce the flower size. Likewise, cooler temperatures will delay flowering, while flowers will be larger. At 85°F (29°C) ADT, heat delay can occur in New Guinea impatiens.

Divine can be grown at temperature as low as 57°F (14°C). However, plants will develop very slowly and finished crop time will increase to about 15 weeks from transplant.

Light
Keep light as high as possible while maintaining appropriate temperature. Divine New Guinea impatiens are day neutral for flowering. A high DLI of 10 to 15 moles•m^{-2}•d^{-1} increases the number of flowers and branches per plant. A lower DLI can delay flowering.

Humidity
Keep the relative humidity above 75%, especially at night, so that plants may fully benefit from target greenhouse temperatures. Relative humidity below 75% can drive plant temperatures below greenhouse air temperatures.

Media Moisture
New Guinea impatiens are sensitive to over-watering. Do not use drought stress to regulate plant height as severe wilt may cause flower drop and flower bud abortion. Cycle between moisture levels 3 and 4.

Fertilizer
New Guinea impatiens are moderate feeders. Excessive fertilizer causes leafy, lush growth and diminished flowering. Provide P at 12-15 ppm constantly. Maintain medium EC below 1.0 mS/cm. Avoid high ammonium and high phosphorus fertilizer. Selection of constant liquid feed program is dependent on local environment and can vary widely from 50 to 150 ppm N. Use a lower rate when ADT is low. Plants may benefit from occasional leaching with clear water to prevent salt accumulation. Excessive salt accumulation can cause bronzing, leaf cupping (down) and tip burn. Fertilizer rates maintaining medium EC (below 1.0 mmhos/cm) when combined with PGR applications will result in more flowers on top of the canopy.

Pinching
Due to natural branching, pinching is not required and only increases the crop time.

Plant Growth Regulators
Plant growth regulator use may be needed depending on light, temperatures, variety and container size.

In North American conditions:
1 or 2 applications of paclobutrazol (Bonzi, Piccolo) spray at 2 to 5 ppm (0.5 to 1.25 ml/l 0.4% formulation) can control height without reducing flower size. Paclobutazol drench at 0.125 to 0.25 ppm (0.03 to 0.06 ml/l, 0.4% formulation) is also effective, but may stunt less vigorous varieties (See Table 1 for vigor ratings). Start with low rates and adjust as necessary. Negative DIF and DROP work well for New Guinea impatiens height control. Florel is not needed to promote branching.

In North European conditions: 1 or 2 spray applications of paclobutrazol at 2 to 4 ppm (0.5 to 1.0 ml/l 0.4% formulation) are effective. Negative DIF and DROP work well for NGI height control.

For larger containers or hanging baskets, PGRs may only be needed for vigorous varieties (see table 1). Conduct your own trials to determine the best rate for your conditions.

Table 1. Divine series vigor rating

Most vigor: Blue Pearl, Orange Bronze Leaf, Scarlet Bronze Leaf

Mid vigor: Cherry Red, Lavender, Orange, Scarlet Red, White,

Least vigor: Violet Improved, Pink Improved

Note: It is the responsibility of the applicator to read and follow all current label directions for the specific chemical being used and to use the PGR in accordance with all laws and regulations.

Crop Scheduling
Germination: 5 to 8 days; stage 1 is complete at 80% radicle emergence.

Finish time for 288 or 128 plugs: 5 to 6 weeks, respectively.

Weeks from transplant to flower:

Container Size: 306/1801 flat

288-cell plugs per pot: 1

Spring: 6 to 7

Autumn (Southeast)*: 8 to 10

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Container Size: 4 to 5-in. (10 to 12.5-cm), quart pot

288-cell plugs per pot: 1

Spring: 7 to 8

Autumn (Southeast)*: 8 to 10

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

288-cell plugs per pot: 1-3

Spring: 8 to 9

Autumn (Southeast)*: 9 to 11

Container Size: 10-in. (25-cm) basket

288-cell plugs per pot: 3-4

Spring: 8 to 9

Autumn (Southeast)*: 9 to 11

Container Size: 12-in. (25 to 30-cm) basket

288-cell plugs per pot: 4-5

Spring: 8 to 9

Autumn (Southeast)*: 9 to 11

* Heat delay possible when ADT exceeds 86°F (30°C).

Common Problems
Insects: Thrips, aphids, fungus gnats and mites.

Diseases: Pythium, Rhizoctonia, Phytopththora, Botrytis, Tomato Spotted Wilt Virus, Impatiens Necrotic Spot Virus, Powdery Mildew and Myrothecium.

NOTE:
Divine New Guinea impatiens has high/standard resistance (HR) to Impatiens Downy Mildew in accordance with terminology set by the International Seed Federation.

In the Garden
Home gardeners will see best results when they plant Divine New Guinea impatiens in partial sun to shade. Space plants 8 to 10 in. (20 to 25 cm) apart in the garden. Divine New Guinea impatiens also works well in baskets, containers and patio planters.

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