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Volume 9 Number 28 April 2020

New Guinea Impatiens- Do's and Don'ts

New Guinea impatiens (Fig. 1) are one of the most popular bedding plants. Their attractive foliage and large, colorful, and plentiful flowers have made them an important annual crop for grower. While they are not the hardest crop to produce, they are not without their challenges. This article highlights the top “Do's and Don'ts” for producing high-quality New Guinea impatiens.

Temperature

New Guinea impatiens are a warm-growing crop and are sensitive to cold temperatures. In contrast to early season crops such as pansies, dianthus, and snapdragons, New Guinea impatiens can struggle to grow in the greenhouse when temperatures are too cool. Their optimal temperature, the rate at which growth is fastest, is around 75 to 80 °F, whereas temperatures below 60 °F can slow down growth. Day temperatures between 68 and 75° should be targeted. When rooted cuttings are first transplanted, it is best to maintain night temperatures at or above 63 °F to get them established. Night temperature can be lowered slightly but should still be maintained at or above 60 °F once root systems have established and shoot growth resumes.

Light

New Guinea impatiens can flower under a range of day lengths and are day-neutral plants. Although day length doesn't affect growth and flowering, the quantity of light- or daily light integral (DLI)- does. A DLI of 4 mol·m⁻²·d⁻¹ is

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Figure 1. New Guinea impatiens are one of the most popular annual bedding plants, but they are not without their challenges.



required for a minimally acceptable crop, while good- and high-quality crops are grown under 6 to 8 mol·m⁻²·d⁻¹ and 10 to 15 mol·m⁻²·d⁻¹, respectively. While DLIs higher 15 mol·m⁻²·d⁻¹ should be avoided for many New Guinea impatiens cultivars, some of the newer varieties of New Guinea impatiens developed for full sun can be grown under higher DLIs. Developed specifically for full-sun conditions in gardens, these these plants are more adapted to the stronger light intensity compared to traditional green- and bronze-leaf cultivars.

Water

It is best to grow them on the slightly drier side right after transplanting cuttings to let their root systems establish, and overwatering at this stage can slow roots down from developing. Once established, the substrate can be kept moister. New Guinea impatiens growth responds positively to irrigation, and they are provided with as much water as they can take up, growth is pushed to the point of being excessive (Fig. 2). Therefore, restricting excessive irrigation is one effective method of non-chemical growth control for this crop. However, be careful in moderating New Guinea impatiens substrate moisture. If they are repeatedly dried down too hard, plants will suffer and they can even collapse from the repeated stress.

Nutrition

Avoiding over-fertilizing plants during production is key for producing New Guinea impatiens (Fig. 3). New Guinea impatiens are light-feeding plants and are best grown with a substrate electrical



Figure 2. New Guinea impatiens will grow proportionally to the water they are provided. Notice the tray or rooted cuttings on the right hand side that has been held longer than the tray on the left. In order to prevent wilting, cuttings were kept well-watered- and look at the excessive growth it caused.



Figure 3. New Guinea impatiens are sensitive to the salt stress cause by excessive fertilization. The aborted shoot tips are signs of excessive substrate electrical conductivity. Compared to other vegetative propagated annuals, New Guinea impatiens require less fertilizer.



Figure 4. While New Guinea impatiens generally do not require plant growth regulators (PGRs), the vigorous-growing cultivar on the left would have benefitted from some growth control, whether from better moisture management of chemical plant growth retardants.

conductivity (EC) between 1.0 and 2.5 mS/cm using the PourThru test. Providing too much fertilizer and allowing substrate EC to get too high can result in salt-stressed and -damaged plants. Once cuttings are transplanted, fertilizer applications are not required for the first few weeks as plants are establishing; this is especially true if the substrate contains a starter charge. After plants are established and start more active growth, fertilizer can start to be applied. Using 100 to 200 ppm N at each irrigation, depending on irrigation leaching fraction, is sufficient. Incorporating clear water irrigations and leaching with clear water is useful to prevent high salts. In addition to managing EC, maintain substrate pH between 5.8 and 6.2. New Guinea impatiens can be susceptible to micronutrient toxicity as pH drops below 5.8.

Growth regulation

It is possible to produce New Guinea impatiens with little to no plant growth regulator (PGR) application from propagation through finishing. Cuttings root with or without any rooting hormone application. Modern New Guinea impatiens cultivars are free-branching and don't require any pinching or other treatments to enhance branching. Additionally, New Guinea impatiens generally do not require PGRs to suppress growth, as this can be usually be accomplished through cultural factors such as managing irrigation (Fig. 4). If growth retardants are needed, paclobutrazol sprays (1 to 15 ppm) are recommended. For large containers with long crop times, ethephon sprays (up to 300 ppm) may be applied to abort flowers and buds and to

keep plants vegetative as they are bulked up.

Pests and disease

Tomato spotted wilt virus (TSWV) and impatiens necrotic spot virus (INSV) are two particularly devastating viruses for New Guinea impatiens crops. Rigorously inspecting incoming cuttings and rooted liners for the necrotic lesions and concentric rings. Additionally, stay on top of thrips control, as they are vectors for TSWV and INSV and can transmit the viruses to otherwise healthy plants. Also keep an eye on root rots that may develop in New Guinea impatiens crops resulting from their water requirements.

Take-home

By providing adequate heat and light, adequate moisture, limiting excess fertilizer and drops in pH, and staying ahead of thrips and root rots, New Guinea impatiens can finish strong (Fig. 5) for spring sales.



Figure 5. These vibrant patio pots of New Guinea impatiens are just finishing and ready to add some color to summer.

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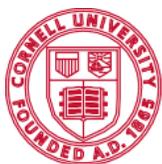
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