



By Erik Runkle

Overcoming New Guinea Impatiens Stall

Increased humidity and better lighting help plants retain moisture and heat, promoting quicker growth.

Many greenhouse growers in cooler climates watch their crops of New Guinea impatiens “stall” during the late winter and early spring; plants grow very slowly and take several months before they first begin to flower. Because of their long crop time, rooted cuttings are often transplanted in late winter and early spring for sales in late spring and early summer. As spring progresses, plants develop more rapidly.

Warm Things Up

In most situations, the reason for the slow growth is quite simple: Plant temperature is too cool. New Guinea impatiens grow best in moist, warm conditions. Plant development is very slow at temperatures less than about 65° F. As temperature increases, plants develop progressively faster. Research by Cathy Whitman and Royal Heins at Michigan State University found that plants developed most rapidly in a humid environment at an air temperature of around 73° F.

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Plant temperature is primarily influenced by greenhouse air temperature, humidity, light intensity and glazing temperature. New Guinea impatiens can be significantly cooler than the air temperature when the greenhouse humidity is low and glazing temperature is low. In a dry greenhouse, plants can be 10–15° F cooler than the air temperature, especially during the night. Why? Leaves of New Guinea impatiens lose water through evaporation. The lower the humidity, the more water that is lost and, therefore, the cooler plants become. In addition, plants exposed to a cold glazing material lose heat to the cold “sky.”

If a retractable curtain is pulled at night, the effective temperature of the sky increases, and plant temperature decreases less.

Shed Some Light

Light levels also influence plant temperature of New Guinea impatiens (and other crops). As light intensity increases, plant temperature generally increases. During periods of cloudy weather and during winter months, when light levels are lowest, light does not significantly raise plant temperature unless supplemental lighting is used. Some growers provide long days to New Guinea impatiens to accelerate flowering. This practice hastens flowering only if a high intensity is used (from high-pressure sodium lamps), not because of the longer day length, but because plant temperature is increased when the lights are on.

During the winter and early spring, greenhouse temperature, humidity, glazing temperature and light levels are often low in temperate regions. All of these factors contribute to cool plant temperatures, which delay growth and development. As spring progresses, temperatures, humidity and light levels all increase, which in turn increase plant temperature. This is why New Guinea impatiens “stall” is generally observed during the coldest, driest and darkest periods of the year.

In Conclusion

To promote rapid growth and flowering of New Guinea impatiens, first and foremost, provide warm air temperatures (72–74° F) during the day and night. Second, consider using supplemental (high-intensity) lighting during the winter. Because plants are generally coolest during the night, a higher humidity and use of a retractable curtain are particularly effective at bringing plant temperature closer to air temperature. Finally, provide relatively low fertility to New Guinea impatiens when plants are young; excessive feed rates can also cause plants to stall. **GPN**

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