

Growing New Guinea Impatiens

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Twenty years ago (1972) New Guinea Impatiens were first introduced into the U.S. trade. Now they represent a major bedding plant species. The gardening public knows all about New Guinea Impatiens (NGI). At a plant sale last year, I was surprised to hear gardeners ask specifically for NGI and see them purchase large numbers of NGI baskets and pots to the exclusion of many other bedding plant species. Unfortunately, some growers still have serious problems growing NGI.

New Guinea Impatiens are sensitive to cultural conditions. This is especially true at certain critical stages of development. When cultural conditions, primarily nutrition and temperature, exceed the high or low limits required for optimal growth, problems are encountered. In general, NGI are strong growing plants, and most growers do not have serious problems with them.

Most problems occur during propagation, following transplanting of rooted cuttings or when prefinished material first arrives in the greenhouse.

Propagation

Cutting production is strictly controlled for most NGI cultivars. Growers must be licensed to propagate and, in many cases, only a single cutting can be produced for each cutting purchased, and a royalty must be paid.

Propagate cuttings from clean stock only. New Guinea Impatiens which are diseased or carry virus should not be used in a propagation program.

Growth regulators are not required to root NGI cuttings. Do not allow NGI cuttings to wilt. Use an intermittent mist to prevent cuttings from desiccating during the rooting process.

Maintain air temperature at 65° to 75°F and root-zone temperatures of 70° to 75°F for optimal rooting. Irrigate rooting cubes as needed to prevent wilting, but do not apply fertilizer at this time. Cuttings should root in two to three weeks.

Transplanting

Most growers buy healthy rooted cuttings and then encounter problems that begin immediately following transplant. This is a most critical stage for the crop, and proper temperature and water management are essential for success.

Plant rooted cutting as soon as possible after they arrive. Use a well-drained medium. Most growers use peat-lite media, but some very successful New England growers use up to 40% soil. Water cuttings after transplant and make several passes to settle the mix around the roots. After the initial watering, do not irrigate plants again until the mix dries down. Often, watering can be withheld until the roots reach the side of the pot. It is very important to avoid overwatering NGI at this stage. Do not fertilize NGI during this period.

New Guinea Impatiens represent a major bedding plant species.

Temperature is very important following transplant. Run night temperature in the 70° to 75°F range until plants are well established during the first few weeks following transplant.

As a rule of thumb, once the roots reach the side of the pot and new top growth is evident, the cutting is established. At this time, night temperature can be lowered to 65° to 68°F. Avoid temperatures below 65°F while you are trying to force plant growth. At 60°F, growth will cease. Grow NGI at an average daily temperature of 68°F to optimize flowering.

Once plants are established and being forced in the greenhouse, allow plants to dry between waterings. Plants which remain wet all of the time will produce soft, vegetative growth and fewer flowers. Plants which experience some light water stress will remain more compact and flower more prolifically.

Begin to fertilize NGI once the roots are well established in the pot. A 20-10-20 formulation or a 15-16-17 alternated with a 15-0-15 will provide adequate N-P-K. Use a constant feed for

best results. Provide 150 to 200 ppm each time plants are watered. New Guinea Impatiens respond favorably to supplemental magnesium. Apply eight ounces of epsom salts ($MgSO_4$) per 100 gallons of water once per month.

New Guinea Impatiens are very sensitive to high salt levels. Avoid feed rates in excess of 300 ppm. The cultivars 'Delias', 'Saturnia', and 'Sylvine' are most sensitive to high soluble salt levels and can be used as indicator plants to detect a developing problem. Test your potting media regularly during crop production to monitor salt buildup. With the UConn spurways test, a soluble salt level in the 60 to 80 (mhos $\times 10^3/cm$) range is most desirable for established plants. Growers with hard water will be more likely to develop high salt problems and should periodically irrigate with a soft water source, such as rain water.

New Guinea Impatiens are also sensitive to high micronutrient levels. Most soluble fertilizers contain micronutrients and most commercial potting media are supplemented with micronutrients. Do not provide extra micronutrients with your fertilizer and avoid low pH levels (i.e. below 5.8). A periodic feed with a basic fertilizer (one that raises the pH) such as a 15-0-15 or 20-0-20 will help maintain the pH in a desirable range.

New Guinea Impatiens thrive in high light. As light intensity increases and day lengths increase, flowering will also increase. In the greenhouse, shade is usually not necessary except during July and August when temperatures are high. In the garden, NGI need some direct sun and can perform well in full sun if enough water is provided. They will not do well in full shade locations. Plants that are acclimated to high light and mild water stress prior to sale will perform better for the customer once in the garden.

Most New Guinea Impatiens cultivars will remain compact if proper spacing is provided and plants are spaced on time. Therefore, plant growth regulators are usually not required. However, Bonzi at a low rate will provide good height control if some chemical control is necessary. B-Nine and Cycocel are not very effective, while Sumagic can be too effective and should be formulated and used with care. DIF can also be used on NGI, although the effects may not be as dramatic as with some other crop species.

New Guinea Impatiens do not ship well if sealed in closed containers for long periods of time (i.e. > 24 hours). Under these conditions, flowers and flower buds will abort.

Prefinished

Some growers find that NGI purchased as prefinished stock sometimes fail to thrive in their greenhouses. As with transplants, some stress occurs when plants are handled and moved from one environment to another. Exercise care during the first few weeks after prefinished stock arrives, until the plants become acclimated to the new environment. Run night temperatures warm, 68° to 70°F during this period and avoid day temperatures over 80°F. Run a soil test as soon as plants arrive, so that the proper fertilizer regime can be implemented and avoid overwatering.

By following these few simple cultural recommendations, growers should have more success establishing and raising a quality crop of New Guinea Impatiens.