

## SECRETS TO SUCCESS WITH NEW GUINEA IMPATIENS

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### 1. Select correct varieties

There are tremendous differences among New Guinea impatiens (NGI) varieties currently on the market in terms of:

- \* growth habit (dwarf, medium, tall, broad)
- \* earliness
- \* flower durability, keeping qualities
- \* outdoor performance
- \* indoor performance
- \* sun and heat tolerance
- \* leaf size, color, variegation
- \* self-branching

Therefore, it is of utmost importance to become acquainted with characteristics of varieties offered, and to choose the ideal ones for the purpose you have in mind (e.g. baskets, small pots, interior plantscaping, outdoor bedding, etc.). If your supplier is not able to provide the information you need, go directly to the breeder.

### 2. Select a reliable supplier of clean young plants

Do not skimp on quality of the young plants you're buying; make sure you buy the very best material available. If you start off with cheap, non-indexed material, chances are you'll never obtain the performance you expect, and you also risk introducing disease into your greenhouses.

Tomato spotted wilt virus (TSWV) has become a major concern for New Guinea impatiens growers during the past few years. However, there are a number of other viral, fungal, and bacterial diseases that can also ruin your crop. Therefore, make sure your supplier has an indexing program for TSWV and other major virus diseases that can affect NGIs.

### 3. Do not retain your own mother stock

For the same reasons, it is highly unwise to keep your own NGI mother stock (unless, of course, you are a specialized

propagator). Keeping your own mother stock without special precautions (indexing, screening, knife sterilization, etc.) is an invitation to disaster. Diseases and pests can easily establish themselves during the "off" season (e.g. during summer months); even one undetected diseased mother plant could infect scores of plants in your greenhouses.

If you are licensed to keep your own stock, make sure you're starting off each year with clean material directly from the breeder.

### 4. Use a potting mix with a low salinity level

Soluble salts and fertilizer levels are crucial for success with New Guinea Impatiens. NGIs are extremely sensitive to high salts levels in the growing mix, especially in the early stages of growth. Rooted cuttings planted into a mix with high fertilizer levels will not grow, and may even die. NGIs will grow well in almost any commercial potting mix, regardless of structure or pH, providing the fertilizer level does not exceed 1.5 (saturated paste extract).

After potting, do not provide any liquid fertilizer for the first 4 to 5 weeks, until the plants have become well-established and are growing well. If lower leaves start to turn yellow, this is a sure sign plants are becoming nutrient deficient and need fertilizer. On the other hand, dark green, crinkled leaves with brown tips indicate plants are being fertilized too heavily.

### 5. Provide sufficient heat after potting

The main reason many growers find NGIs just "sit there" and do not grow after planting is temperatures are too low. The wild parents of current NGI hybrids come from tropical Papua New Guinea; therefore they prefer consistent warmth. Planting a rooted NGI cutting into cold, wet growing medium with high fertilizer levels and keeping the

plants at 55 to 60°F is a guarantee for frustration. Try to keep temperatures at 75°F for 1 to 2 weeks after planting; bottom heat is very beneficial.

### 6. Keep temperatures at about 70°F

After plants start growing actively, temperatures can be lowered to about 70°F. Do not let the temperatures dip below 65°F for long, since this will stop plants in their tracks. At 70°F, you'll be able to produce an excellent crop in a very short period of time; at lower temperatures, it will take several weeks longer to finish the crop. Applying DIF has proven to be beneficial in producing a good NGI crop; however, make sure the average temperature is still around 70°F.

### 7. Keep the growing medium evenly moist

The amount of water available to the plants will strongly influence the size and quality of the finished product; in addition, bench time and flowering profusion are also influenced by growing mix moisture levels. If the growing mix is continuously kept very moist, you will get very large, soft-leaved plants with a strong vegetative habit; if the plants are kept on the drier side, you will get small, compact, tough-leaved plants with many more flowers. Thus, it is possible to influence the appearance and size of the crop by regulating the amount of water. However, it is important to maintain consistent moisture levels; jumping from one extreme to the other will result in leaf burn and flower drop.

### 8. Provide plants sufficient space

Proper spacing is the key to producing a compact, well-shaped plant. In the first 3 to 4 weeks after planting, it is better to keep plants pot to pot, since the microclimate will be better for initial growth. After, it is very important to ensure plants are always spaced so leaf tips are almost touching each other. This

will promote growth of lateral branches and prevent stretching, producing a well-rounded, compact plant.

### **9. Try to avoid growth retardants**

Much research has been conducted in regard to use of growth retardants on NGIs. Actually, growth retardants are not really necessary; proper cultivation (moisture, spacing) and selecting compact varieties eliminate the need for growth retardants. DIF has proven very effective for producing a compact, well-branched NGI crop.

Some of the older, taller varieties may still need some growth retardants. If you want to grow these varieties, several weak spray applications with Bonzi will keep plants compact. Other growth retardants are either not as effective (B-Nine, Cycocel) or too effective (Sumagic). Bonzi may also be useful in "holding" a crop that needs to be spaced when no space is available.

### **10. Don't take a top cutting**

The modern NGI varieties have been bred to branch freely without pinching, and will naturally bring forth many lateral branches that will flower simultaneously with the apical shoot. Taking a top cutting will not only ruin the rounded, ideal shape of the plant, it will also prolong the growing period needed to finish the crop by about 2 to 3 weeks. For pot-grown plants, it is cheaper to buy more cuttings than to take the tips.

### **11. If possible, use soft water for irrigation**

If available, use rainwater or very soft water for irrigating, because salts in hard water will accumulate during the cultivation period, especially during hot weather. Since NGIs are very salt-sensitive, roots may be damaged by excess salts levels, especially if the growing mix is allowed to become a little dry from time to time. Soft water will also prevent ugly water spots on the foliage if irrigation is from overhead.

### **12. Avoid temperatures below 60°F**

Temperatures below 60°F will stop NGIs dead in their tracks; there will be zero growth, and plants will be very susceptible to fungal diseases such as *Pythium*, *Rhizoctonia*, and *Botrytis*. In addition, leaves will redden and curl; thus, the overall quality will be poor, and plants will take forever to finish. The only time cool temperatures may be beneficial is when hardening off prior to marketing.

### **13. Avoid temperatures above 80°F**

High temperature can also be very detrimental for producing a quality NGI crop. Temperatures above 80°F will lead to small, distorted flowers; in many cases, plants will stop flowering altogether. The keeping qualities of plants grown at very high temperatures will be very poor.

### **14. Keep relative humidity high**

Relative humidity management is crucial for successful NGI cultivation. As in their natural habitat, NGIs grow best at high relative humidity levels. Therefore, it is important to keep relative humidity high during spring and early summer. Low humidity levels will result in brown leaf tips, distorted flowers, and lusterless foliage; in addition, the plants become far more prone to spider mite infestation.

During winter months, however, relative humidity levels should not be kept too high, otherwise plants will "sweat" during the night. This will lead to *Botrytis* and maybe even cyclamen mite infestation. Ventilators or fans will alleviate this problem; in addition, it is important not to drop the night temperatures in the greenhouse, which will lead to condensation.

### **15. Provide good light; shade when necessary**

New Guinea impatiens thrive under good light intensity conditions; flower initiation is triggered by high light intensities and long days. High light levels will lead to compact, bushy plants with glossy dark foliage and many flowers. Therefore, we do not usually recommend shading before late March/

early April. Permanent shade is not ideal; light cloth shading during bright spells is much better. If light intensity levels become too high, plants may become somewhat stunted, and the foliage may take on a reddish tinge.

### **16. Don't let pests ruin your crop**

As with all crops, NGIs are prone to several pests and diseases. The most common are spider mites, western flower thrips, and cyclamen mites, but aphids, whitefly, and fungus gnats can also be a problem. A regular preventive spray program and sticky card monitoring will keep any of these pests from becoming a threat to your crop. Special attention should be paid to thrips as a vector of TSWV; try to keep this pest from establishing itself in your greenhouses.

### **17. Harden off the plants before they are sold**

One possible reason for frustration with NGIs is the fact that they are often sold directly out of a warm, humid, lightly shaded greenhouse directly to the consumer. If these impatiens are planted in a full sun location, they will be sunburned to the point of no return. If cared for properly, these plants may eventually recuperate, but the consumer will not be very pleased. Therefore, it is important to harden plants off the last few days before marketing by lowering temperatures somewhat, providing less shade, and more ventilation. Hardening plants off will also improve keeping qualities during shipping.

### **18. Avoid shipping NGIs over long distances**

NGIs do not survive being boxed for any length of time. They are extremely sensitive and will drop all flowers and buds after being in transit for more than a day. Therefore, NGIs should be grown for the local retail market, not for wholesale distribution all throughout the country. For this reason, NGIs are a wonderful crop for retail growers and local garden centers.

Applications with STS (silver thiosulfate) will improve shipping

qualities somewhat; however, flowers that are open when STS is applied will be damaged. If STS is used, it should be applied 7 to 14 days before shipping.

**19. Inform your customers what NGIs need, want, or dislike**

To keep your customers coming back for more NGIs, it is very important to prevent the consumer from being frustrated with the crop. Make sure your customers know NGIs are best in subdued sunlight or partial shade, and they need a lot of water during hot summer weather.

**20. Prolong your sales season**

All too often, NGIs are seen as a pure bedding plant item. It may be true that NGIs are an excellent bedding plant, but this crop is so versatile that it would be a shame to limit sales only to the bedding plant season.

NGIs make wonderful flowering potted plants for indoor use. In many parts of Europe, NGIs are grown almost exclusively for this purpose, and have

already displaced hiemalis begonias, to a certain extent, in this market. Modern NGI varieties will keep quite well under indoor conditions, providing they are irrigated regularly and receive sufficient light. Millions of NGIs are already being grown under HID lighting during the winter season for sales from Valentine's Day through Easter. The way things look now, this market will increase even further.

Certain varieties can also be grown as minis, and are also gaining popularity for this purpose. Confined to small pots, NGIs will flower very quickly and profusely, and remain surprisingly compact.

I personally see a vast potential in the use of NGIs for interior plantscaping. NGIs should prove to be ideal for this purpose, especially the modern, refined varieties. This could well open a huge, year round market for this crop.

**21. Keep a look-out for new varieties**  
New Guinea impatiens are such a new

crop; we're actually only three decades away from the weedy, straggly wild species collected in Papua New Guinea and brought back to the United States for initial breeding. Since the genetic potential of this crop had only been scratched, there was tremendous room for improvement in the past few years; we're now light-years away from the first ever introduced to the market a decade or so ago. Tremendous advancements have been made in breeding improved varieties, and more progress is bound to be made. Future NGI varieties will be far more uniform, with a broader and more brilliant color range, even more floriferous, and far better suited to the needs of the grower and of the market. Therefore, it is very important to stay informed as to which varieties are new, and find out what their characteristics are.

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