Producing High-Quality New Guinea Impatiens

1. Getting Started

KEY IMPORTANT POINTS

• Try to be proactive in your management decisions, whether it is height, fertilization, insect or disease control.
• Don’t wait for problems to dictate your crop strategy.
• Read this culture information before you start the crop.

1. VARIETY SELECTION

Few plants have had the success in the floriculture industry over the last 20 years as New Guinea impatiens. Their success has been based on the continual improvement in varieties in regard to flower color and size, branching, and outdoor performance. Understanding and selecting appropriate varieties for your particular growing situation is the first step in producing high quality New Guinea impatiens.

Fischer’s New Guinea impatiens:

Sonics are a series of compact to semi-compact varieties that are early flowering, grow uniformly, and produce flowers up to 3” across. They’re a good choices for 4” and 5” pots, but are also suitable for larger patio containers, baskets, and color bowls. Sonics are becoming very popular as potted plants for gifts and holidays, but can also be used in outside containers and landscape beds.

Super Sonics are vigorously growing New Guinea impatiens bred to withstand the rigors of outdoor landscapes. They have proven to have outstanding outside performance in trials across North America. As a series, Super Sonics flower slightly later than Sonics, but have similar flower size. They can be grown in all container sizes, but are particularly suited for 6” baskets and larger containers. Their large flowers and superb vigor make them a good choice for landscape beds and outside gardening.

2. PROPAGATION OF UNROOTED CUTTINGS

Upon Arrival:

• Stick immediately, or if not possible, place in a cooler with temperatures not lower than 45°F, or
• open the bags and place on the bench and mist frequently.

Temperature:

• Soil — 72-75°F, day and night.
• Air — 70-73°F, day and night.
• Cuttings may root too slow, or not at all, if the temperature is too cold.

Misting:

• Adjust mist daily depending on conditions.
• Leaves should not wilt.
• Mist more frequently than geraniums.
• Too much water on the leaves and in the media may result in Botrytis and in delayed rooting.
• Apply Capsil 30 spray advant (3–4 ounces per 100 gallons) at day 1 or 2 after sticking to increase water absorption into the leaves.

Media:

• pH — 6–6.2 (6.2–6.4 in saturated media extract).
• Oasis, Rockwool, Preforna, Fertiss, Ellepots, Jiffy Pellets, IHT, or coarse peat with 50% perlite work well. New Guineas are relatively easy to root.

Rooting hormones:

• Not necessary but can result in more even rooting.
• Can cause rot if applied too heavily or with too high a concentration (higher than 0.1% Indole-3 butyric acid, also known as IBA). Only cover the cut surface end.

Fertilizer:

• No foliar feeding is necessary.

• After root formation feed with 100 ppm nitrogen of a balanced fertilizer. Leach periodically with tap water if holding the cuttings.
• Use high nitrate blends (13-2-13, 15-5-15, 17-5-17) for more toned growth and to help prevent stretching at the end.

Light:

• Until root development: 1,500-2,000 foot candles.
• After root development: 2,500-3,500 foot candles.

Diseases:

Botrytis:

• It is very important to clean dead and infected leaves to avoid loss of the whole cutting. Avoid over-misting.
• Daconil + Chipco 26019 (or OHP Sextant) at 3/4 recommended rate alternated with Decree (or other appropriate fungicides, i.e. Heritage) should be applied on day 2 and 8 after sticking. If other fungicides are used, it is best to test these on a small block. Do not use Compass or Medallion fungicides.

Myrothecium:

• This fungal leaf spot causes necrotic lesions on the leaf, sometimes with circular patterns within the lesion. The outside of the lesions sometimes turn reddish-pink.
• Control with Daconil or Heritage fungicides at the first sign of infection.

Fungus gnats:

• Heavy infestations can result in losses and reduced rooting.
• Get rid of algae and debris as possible breeding grounds before propagating unrooted cuttings.
• Distance, Citation, Enstar II, and Duraguard work well against the larvae stages.

II. Finishing New Guinea Impatiens

Media:

• pH — 6–6.2 (6.3–6.5 in saturated media extract); should not be below 5.8 because of possible iron and manganese toxicity.
• Good porous media with coarse peat plus 30% perlite is ideal. Many medium- to high-drainage commercial mixes do well for New Guinea impatiens.

Water management:

• Very important: Keep only slightly moist until the roots are established in the pot.
• Do not overwater early on as this will inhibit root development.
• Plants should be kept moist as they become older and more established. Avoid severe drying out on mature plants.
• High quality water is important in growing New Guinea impatiens. EC levels of the water should be below 1 mS/cm and sodium levels below 50 ppm.

Fertilization:

• For the first 3 weeks they should only be fertilized with 50-100 ppm nitrogen.
• After that, 150 ppm nitrogen is ideal depending on potting media analysis. Increase or decrease rates slightly depending on EC.
• Leach with clean water every two weeks to avoid salt build up. The EC should be between 1.2–1.4 mS/cm using a saturated media extract (SME) method.
• Leaves with edges rolling under, cupping downwards, and many times with burnt tips are usually a sign of too high of salts.
• Avoid controlled-release fertilizers and micronutrient supplements; they often lead to salt burn, stunting, and toxicity.

Temperature:

• For ideal vegetative growth, run 72–78°F day and 68–70°F night.
• Warm night temperatures are crucial for early establishment of New Guineas.
• After 5 weeks, for tall plants run 75–80°F day and 65–68°F night; for compact plants run 68–70°F day and 65–68°F night.
• For ideal flower initiation, the night temperatures should be at or below 66°F, especially under low light conditions.
• Once flowers are initiated, night temperatures can be raised up to 68°F to hasten flower development.
• As day temperatures exceed 83–85°F shading may be required, otherwise flower size and number will be reduced.

**Light and Lack of flowers:**
Many growers improperly think of New Guinea impatiens as a low light crop.
• For ideal vegetative and flower development, 3,500–4,500 foot candles are very important. Maintain moderate day temperatures under this relatively high light intensity.
• Shading is required above 5,000 foot candles otherwise flower size will be reduced and leaves can become bleached and scorched.
• Full sun outdoors can only be tolerated if plants are watered daily; the flower size will be reduced under very warm temperatures.

**Delay or absence of flowering is usually correlated to:**
• Lack of light (lower than 2,500 foot candles).
• High night temperatures (higher than 70°F) or high day temperatures (higher than 85°F).
• Too high of fertilizer level (above 2 EC).
• Very often a combination of the above.

**Growth regulation:**
• Pinching is not necessary, but can be done to delay the crop or make the plant more compact and bushier.
• If day temperatures are more than 10° higher than night temperatures, or plants are growing too fast and lush, 1 to 2 ppm Bonzi sprays, 1–2 times, might be necessary depending on light conditions, temperatures, and vigor of the plant. Super Sonics are more vigorous than Sonics and might need chemical growth regulation in smaller size containers.
• Apply Bonzi sprays during the first half of production, otherwise flower size will be reduced.
• Use negative DIF (warm night and cool day temperature) to help keep plants compact.

**Diseases:**
• The major diseases are Botrytis, Pythium, Rhizoctonia and Powdery Mildew.
• Pythium can be avoided by low salts and good watering practices. Subdue Maxx at 34 ounce per 100 gallons every 4 weeks is recommended. Other chemicals that are labeled for Pythium include Truban, Terrazole, Banrot, and Alliette.
• Tomato Spotted Wilt Virus (TSWV) or Impatiens Necrotic Spot Virus (INSV): If concentric ring spots on leaves or black streaks on stems and petioles show up, send a sample to a qualified laboratory. Botrytis can sometimes cause similar symptoms on leaves, but usually will have gray fungal mold associated with the leaf. There is no cure for these virus diseases and plants should be removed from the greenhouse immediately. Try to control thrips in the area since these are the insects that vector the disease. Tobacco Mosaic Virus (TMV) can also occur and has been known to come in as infected cuttings. TMV is similarly vectored by thrips like TSWV and INSV. If cuttings or young plants are stunted and not growing, it might be a sign of TMV infection. Send the plants off to a reputable lab for testing or use quick-test strips available from AGDIA.
• Rhizoctonia (fungal root rot) and powdery mildew are less common diseases on New Guinea impatiens. Rhizoctonia looks somewhat similar to Pythium root rot, but usually starts with a blackening of the stem at the soil line. Control with drenches of either Cleary’s 3336, TerraCItor, or Heritage. Do not use Medalion.
• Powdery Mildew causes distinct white fungal growth on the upper surface of the leaves. It can sometimes be confused with paint drippings from the top of the greenhouse. The best chemical controls for powdery mildew include Strike and Pipron. Beware that repeated applications of Strike can have growth retarding effects.

**Insects:**
• Watch constantly for thrips, spider mites, and fungus gnats and try to control before flowering, otherwise flowers can be damaged by insecticides.
• Thrips can be the most devastating of the insects since they transmit viruses. Duraguard works good against fungus gnat larvae and thrips pupe in the potting media as a drench at 35 ounces per 100 gallons. Distance, Citation, and Enstar II can also be used for fungal gnat larvae. Adult thrips can be controlled with Conserve, Mesurol, Pedestal, or Orthene + pyrethroid combination sprays.
• Spider mites are also a serious pest on New Guinea impatiens and commonly attack plants under warm, dry conditions or when the plants are under frequent water stress. Look for curling new leaves, small pinholes (speckling) of the leaves, and webbing. Spider mites can be controlled with thorough sprays of Avid, Sanmite, Floramite, Mavrik, Talstar, Pylon, Akari, or TetraSan.
• Absolute cleanliness, monitoring with sticky cards, inspection of incoming plant material, and immediate action in case of infestations are mandatory to avoid later problems. When spraying for insects, always rotate between pesticide classes to prevent insect resistance to the pesticide.

**Most important problems and possible causes:**

**Lack of root development and early growth:**
• Root rot (drench with Subdue Maxx, Truban, Alliette, or Banrot). Pay closer attention to irrigation practices to avoid overwatering. Most of the time the media is too wet, often combined with low temperatures (below 68°F) and sometimes with too high of salts.
• Fungus gnats. These insects are worse under very wet soil conditions. Good sanitation and disinfecting floors and under benches will help control populations.

**Poor flower development and number:**
• Usually caused by low light or high night temperatures (above 70°F night temperatures); worst if combined.
• Fertilization with high nitrogen, especially ammonium nitrogen; worse, if combined with the conditions mentioned above.

**CROP SCHEDULE**

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<thead>
<tr>
<th>Plants</th>
<th>Pot Size</th>
<th>Spacing</th>
<th>Finishing Time (weeks)</th>
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Note: These suggestions are only guidelines and may have to be altered to meet individual grower’s needs. Check all chemical labels to verify registration for use in your region.