Impatiens
Bedding and New Guinea
Hort 429
Greenhouse Crop Production
Terri W. Starman

Botanical Name

I. wallerana   I. hawkeri

Origin

I. wallerana
• From Mozambique to Tanzania on the east coast of Africa

I. hawkeri
• New Guinea, Java, and the Celebres

Uses and current status

I. wallerana
• Very important bedding plant in North America
• Seed propagated except doubles & variegated leaf types
• Deep shade plant
• Bedding plants, pots, hanging baskets

I. hawkeri
• Bedding plant, hanging baskets, & year-round pot plant
• Cuttings mostly but some seed propagated
• Breeding for new colors, increased flower size & foliage variegation

Bedding Impatiens Propagation

• 50,000 seed per ounce
• Store at 40°F and low 25-30% humidity
• Germination in 15 days
• 70-78°F
• Light until root begins to elongate
• Cover with vermiculite for moisture retention
• Plugs will be ready for market or transplanting in 5 to 6 weeks

New Guinea Impatiens Propagation

• Rooted at air and media temperature of 68°F
• Mist, fog or plastic tent to maintain leaf turgidity
• One pair of expanded, one pair of expanding leaves and the growing point
• Rooting hormones
• Light levels below 2000 fc (400 µmol·s⁻¹·m⁻²)
• Plug trays or final pot
• Transplant ready in 3 to 4 weeks
### Flowering Control
- Day neutral
- Rate of flowering depends on total light irradiance at an appropriate temperature

### Temperature and Light

<table>
<thead>
<tr>
<th>I. wallerana</th>
<th>I. hawkeri</th>
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</thead>
<tbody>
<tr>
<td>DT 75°F</td>
<td>77 to 80°F</td>
</tr>
<tr>
<td>NT 65°F</td>
<td>Growth is inhibited above 80 and below 63°F leaf temperature</td>
</tr>
<tr>
<td>Little or no shade used during GH production</td>
<td>Higher light plant than bedding impatiens</td>
</tr>
<tr>
<td>Too much shade during production causes internode elongation</td>
<td>3000 to 5000 fc is the range for good growth</td>
</tr>
<tr>
<td>Low light plant</td>
<td>(600 to 1000 µmol·s⁻¹·m⁻²)</td>
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### Water

<table>
<thead>
<tr>
<th>I. wallerana</th>
<th>I. hawkeri</th>
</tr>
</thead>
<tbody>
<tr>
<td>Too much water causes internode elongation</td>
<td>Heavy drinkers</td>
</tr>
<tr>
<td>However, do not overwater newly transplanted plugs</td>
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</tr>
<tr>
<td>Microtubes, capillary mat, or ebb-and-flow</td>
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</tr>
<tr>
<td>Grow on the dry side to keep compact and flower early</td>
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</tr>
<tr>
<td>But prevent leaf abscission or marginal burning</td>
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### Media and Nutrition

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<thead>
<tr>
<th>I. wallerana</th>
<th>I. hawkeri</th>
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<tbody>
<tr>
<td>100 ppm N every 2nd or 3rd irrigation</td>
<td>Highly susceptible to excessive soluble salts</td>
</tr>
<tr>
<td>Excess N causes internode elongation, delayed flowering, and numerous leaves</td>
<td>50-75 ppm when young</td>
</tr>
<tr>
<td>The NO₃:NH₄ ratio should be 75:25 or 50:50 to maximum growth</td>
<td>100-200 ppm N</td>
</tr>
<tr>
<td>pH 6.0 to 6.2</td>
<td>Fe and Mn toxicity will occur with low medium pH</td>
</tr>
<tr>
<td>pH 6.0 to 6.2</td>
<td>Stunting and twisting or malformations of the upper leaves</td>
</tr>
<tr>
<td>pH 5.5 to 6.5</td>
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</table>

### Height Control

<table>
<thead>
<tr>
<th>I. wallerana</th>
<th>I. hawkeri</th>
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<tbody>
<tr>
<td>Do not overwater</td>
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</tr>
<tr>
<td>Do not over fertilize</td>
<td>High light</td>
</tr>
<tr>
<td>All growth retardants effective</td>
<td>All growth retardants effective</td>
</tr>
<tr>
<td>DIF?</td>
<td>Zero or negative DIF</td>
</tr>
</tbody>
</table>

### Spacing and Pinching

- Keep plants well spaced for adequate light and air circulation
- Spacing depends on pot size
- No pinching is required
- Bedding Impatiens can be sheered back if it gets overgrown in the flat and will recover well
Insects and Diseases

- Thrips
- Aphids
- Spider mites
- Impatiens necrotic spot virus
- Tomato spotted wilt virus
- Botrytis

Scheduling

- *I. wallerana*
  - 5 week old plugs are transplanted
  - 5 more weeks to become marketable in a flat = 10 weeks total
  - May vary by 3 weeks depending on season
  - Hanging baskets take 12 to 13 weeks
- *I. hawkeri*
  - 10 to 14 weeks after transplanting a rooted plug
  - Will vary by 2 weeks depending on pot size

Physiological Disorders

- *I. wallerana*
  - Seed germination problems
  - Ethylene
  - Excessive fertilization causes delayed or inadequate flowering and excessive height
- *I. hawkeri*
  - Cold damage

Postharvest

- Ethylene causes flower abscission
- Hard to keep watered in hanging baskets