Impatiens
Bedding and New Guinea

Hort 429
Greenhouse Crop Production
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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 $\mu mol\,s^{-1}\,m^{-2}$)
- 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

I. wallerana

- DT 75°F
- NT 65°F
- Little or no shade used during GH production
- Too much shade during production causes internode elongation
- Low light plant

I. hawkeri

- 77 to 80°F
- Growth is inhibited above 80 and below 63°F leaf temperature
- Higher light plant than bedding impatiens
- 3000 to 5000 fc is the range for good growth
- (600 to 1000 µmols^{-1}·m^{-2})

Water

I. wallerana

- Too much water causes internode elongation

I. hawkeri

- Heavy drinkers
- However, do not overwater newly transplanted plugs
- Microtubes, capillary mat, or ebb-and-flow
- Grow on the dry side to keep compact and flower early
- But prevent leaf abscission or marginal burning

Media and Nutrition

I. wallerana

- 100 ppm N every 2nd or 3rd irrigation
- Excess N causes internode elongation, delayed flowering, and numerous leaves
- The NO_3:NH_4 ratio should be 75:25 or 50:50 to maximum growth
- pH 6.0 to 6.2

I. hawkeri

- Highly susceptible to excessive soluble salts
- 50-75 ppm when young
- 100-200 ppm N
- Fe and Mn toxicity will occur with low medium pH
- Stunting and twisting or malformations of the upper leaves
- pH 5.5 to 6.5

Height Control

I. wallerana

- Do not overwater
- Do not over fertilize
- All growth retardants effective
- DIF?

I. hawkeri

- Do not overwater
- High light
- All growth retardants effective
- Zero or negative DIF

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