

MSU Extension Publication Archive

Archive copy of publication, do not use for current recommendations. Up-to-date information about many topics can be obtained from your local Extension office.

Producing New Guinea Impatiens
Michigan State University Extension Service
Mark P. Kaczperski, William H. Carlson, Horticulture
Issued July 1989
4 pages

The PDF file was provided courtesy of the Michigan State University Library

Scroll down to view the publication.

office
copy only

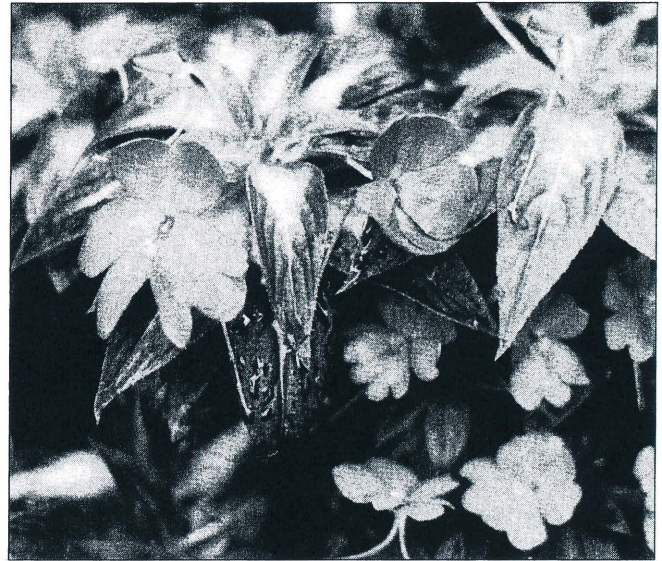
ALL 81 1989

A COMMERCIAL GROWER'S GUIDE

Cooperative Extension Service • Michigan State University
Extension Bulletin E-2179 • July 1989 (New)

Producing New Guinea Impatiens

By Mark P. Kaczperski, William H. Carlson
Department of Horticulture



I. History

- A. New Guinea impatiens is an exotic species of impatiens released by the U.S. Department of Agriculture in 1972.
- B. The original assemblage of 25 very diverse plants was collected in 1970 by H. F. Winters and J. J. Higgins of the Agricultural Research Service.
- C. New Guinea impatiens hybrids were developed from many impatiens species, including *I. herzogii*, *I. schlechteri*, *I. linearifolia* and *I. hawkeri*, all members of the Balsaminaceae family.
- D. The original species from which New Guinea impatiens were developed are native to the New Guinea subtropical highlands.
- E. New cultivars are continually being introduced from Europe and the U.S., providing the consumer with many color combinations of these sun-loving plants for baskets, pots and beds.

II. Cultivars

- A. Because New Guinea impatiens were developed from such a large collection of plant material, the possibilities for cross-breeding to develop new cultivars are almost endless.
- B. The first cultivars were rather tall and unsuited for pot culture, but many of the newer cultivars have been bred to produce shorter plants.
- C. New Guinea impatiens flower colors include shades of pink, white, red and orange and several bicolor varieties. Flower diameter of some cultivars may exceed 3 inches.

- D. New Guinea impatiens have several foliage types. Leaves may be slightly rounded to lanceolate with smooth to serrated edges, and may be green, burgundy or variegated.

III. Propagation

- A. Commercially, New Guinea impatiens are propagated by cuttings. Several suppliers can provide growers with healthy rooted cuttings. Since New Guinea impatiens are becoming more popular every year, cuttings should be ordered as early as the propagators permit to ensure obtaining the desired cultivars.
- B. Unrooted stem tip cuttings will root in perlite in 7 to 21 days depending on cultivar, when propagated under intermittent mist and constant temperatures ranging from 70° to 75°F.

IV. Growing on

- A. New Guinea impatiens grow best in artificial media. A mix containing 50% peat, 25% perlite and 25% vermiculite will provide the good water holding capacity the plants require while still providing excellent aeration to prevent root rot problems. The medium should be free of any pests or pathogens that could harm the cuttings.
 1. Soil based media are not generally recommended for growing New Guinea impatiens because they lack the water holding capacity of a peat based mix and may subject the plants to water stress. If a soil based mix is to be used, it must be properly pasteurized.
 2. For optimum growth, the medium pH should range from 5.8 to 6.2.

3. Perform a soil test before planting. Adjustments to medium pH or soluble salts are easier to make before planting.
 4. Moisten the medium thoroughly before planting, otherwise the sensitive root tips may desiccate and die causing a delay in growth.
- B. The temperature requirements of New Guinea impatiens are compatible with those of many other bedding plants.
1. After planting, New Guinea impatiens should be held at a minimum of 65°F (18°C) night temperature until the plants are established.
 2. After the plants have become established, about a week after transplanting, night temperatures can range from 60°F (15.5°C) to 65°F (18°C). Plants will respond well to day temperatures from 67°F (19°C) to 75°F (24°C), but be sure to keep the plants well watered if temperatures are near 75°F.
 3. Cool temperatures (60°F [15.5°C] nights and 67°F [19°C] days) and high light levels promote increased flowering.
- C. New Guinea impatiens require more light than other, more commonly grown impatiens species.
1. For best results, New Guinea impatiens should be grown under a minimum light intensity of 4000 foot candles. No shading of the greenhouse is required during early spring, but light shading may be applied to the growing structure to help control temperature later in the season.
 2. High light levels have been found to increase flower number and enhance leaf color. Low light levels have been found to limit the number of lateral breaks the plants form.
- D. New Guinea impatiens require more water than most other bedding plants and should be checked several times daily, especially in warm weather.
1. Although New Guinea impatiens use large amounts of water, they may easily be overwatered at the beginning of the production cycle. Make sure the medium surface dries somewhat between waterings until the plants are established to prevent root rot problems.
 2. Give established plants as much water as they can use. Water stressed New Guinea impatiens will drop their leaves and flowers very quickly.
 3. Because large amounts of water are used throughout the production cycle, a program of soil drenches with an appropriate fungicide will help prevent any root rot problems.
- E. New Guinea impatiens are heavy feeders and grow best when high fertility levels are maintained.
1. When the plants are transplanted, they may be fertilized once with a plant starter fertilizer such as 9-45-15. After they are established, they should be given 200 to 240 ppm nitrogen from a well balanced fertilizer using a constant liquid feed program.
 - a. Constant liquid feed is the preferred method for applying fertilizer to New Guinea impatiens. Since the plants have a high water requirement and may be watered several times a day, using a constant liquid feed program will prevent leaching of the nutrients during irrigation.
 - b. If a constant liquid feed program is not desired, the plants may be given 350 to 400 ppm nitrogen from a well balanced fertilizer once or twice a week. Be sure to water thoroughly to prevent soluble salt build-up.
 2. If fertility levels are inadequate, New Guinea impatiens may develop pale, mottled leaves, or display poor growth and flowering.
 3. Check medium pH and soluble salts regularly to ensure that proper fertility levels are maintained.
- F. Supplemental CO₂ at the rate of 1,000 to 2,000 ppm has been found to increase the growth rate and improve quality. If CO₂ is added to the environment, the day temperature can be increased 5° to 10°F (3° to 6°C).
- G. New Guinea impatiens respond poorly to growth regulators. Response varies greatly by cultivar. At the present time, the use of growth regulators is not recommended to control height. Keep in mind that large amounts of water, fertilizer and CO₂ will promote tall, lush growth. Control excessive growth by using less water, fertilizer or supplemental CO₂. However, the grower should be aware of the problems of low fertility and water stress.
- H. New Guinea impatiens can be successfully grown in a wide range of container sizes including 4-, 5-, or 6-inch pots, 8- or 10-inch baskets, or combination pots with other bedding plants.
1. Cuttings can be grown one per 4- or 5-inch pot, one or two per 6-inch pot, three to four per 8-inch hanging basket and up to five per 10-inch basket.
 2. Cuttings grown in 4-inch pots are generally not pinched. In larger pots and baskets, pinching will help develop a fuller plant.

I. New Guinea impatiens require adequate spacing to prevent excessive stretching.

1. After the rooted cuttings are transplanted, the pots may be set pot to pot, but they should be spaced out before the plants begin to crowd one another.
2. The following spacing is recommended:

Pot Size (inches)	Spacing (inches)
4	7 x 7
5	8 x 8
6	10 x 10
8	12 x 12
10	15 x 15

J. The timing of New Guinea impatiens will depend on several factors, such as cultivar, light level, temperature and pot size, and whether the plants were pinched.

1. Plants grown in 4- or 5- inch pots can be produced from rooted cuttings in as little as 6 to 8 weeks in the southern U.S. In northern areas of the country with lower light levels during the growing season, producing flowering plants may take up to 13 weeks.
2. Six-inch pots can be produced in 8 to 10 weeks in the South but may take up to 16 weeks in the North. Baskets, with their increased plant number per pot, can be produced in about the same time as 6-inch pots containing one cutting.
3. Cropping time can be reduced by several weeks in 6 inch pots and in baskets by substituting additional cuttings per pot instead of pinching.
4. As the growing season progresses, cropping time will be reduced because of warmer temperatures and increased light levels, especially in the northern areas of the country. A 4-inch pot that requires 13 weeks to flower when grown in May, will require only 10 weeks if grown in June.

V. Plant problems

A. Several insects can infest New Guinea impatiens.

1. Spider mites, although not true insects, cause the most problems with New Guinea impatiens. Spider mites are found under the leaves and cause the leaves to take on a mottled appearance. Spider mite populations multiply quickly in warm weather and can devastate a crop of New Guinea impatiens. In advanced stages, webbing covers the tops of the plants.

At this stage, the plants will usually be severely damaged and should be discarded.

2. Cyclamen mites, which are relatives of spider mites, have also been found on New Guinea impatiens. Because of their small size, cyclamen mites usually go undetected until injury is evident. Cyclamen mites feed in the growing tips of the plants, causing distorted growth.
3. Thrips are also difficult to detect in New Guinea impatiens because of their small size. Look for thrips in the growing points of the plant and in the flowers. Plant symptoms include twisted, distorted growth and streaks in the flowers. Thrips control is important because they are known to carry tomato spot virus which has become a significant problem with New Guinea impatiens.
4. Mealy bugs may infest New Guinea impatiens and will usually be found in the leaf axils. They are covered with a white cottony mass that hampers chemical control.
5. Aphids may be an occasional problem. These small, sucking insects feed at the growing tips of the plants. They usually respond well to chemical controls.

B. The high water requirement of New Guinea impatiens makes them highly susceptible to several diseases.

1. Root rots caused by rhizoctonia, pythium or phytophthora are a major concern. Apply fungicides regularly to prevent any problems.
2. A second major disease problem is botrytis. Botrytis is a grayish mold on the upper surfaces of the leaves or the soil. Botrytis is especially prevalent under cool, humid conditions, or when old flowers are allowed to remain on the leaves.

C. Control insect and disease problems through cultural or chemical methods.

1. Cultural control methods can easily prevent problems from developing. Grow plants under optimum conditions to keep them healthy so that their natural resistance can minimize losses to insects and diseases. Houses should be vented to prevent high levels of humidity. Use only a sterile media that provides good drainage for growing the plants. Saucers should be removed from hanging baskets to facilitate drainage. Keep areas in and around the greenhouses clean and free of weeds and debris to eliminate places where insects can obtain a foothold.

2. Many excellent chemical controls are available to use against insects and diseases. Use them with caution—the chemical may harm both the plants and people coming in contact with them. Consult your county extension agent to determine which chemicals are currently recommended.
 3. Because New Guinea impatiens were derived from many species, some cultivars may be injured by certain chemicals while other cultivars are not. Test a new chemical on a few plants of *each cultivar being grown* before applying it to the entire crop. The insecticides Kelthane, Karathane and Temik and the fungicide Chipco have been shown to cause phytotoxic effects in New Guinea impatiens and should never be used on this crop.
- D. Several physiological factors may detract from overall plant quality.
1. *Leaf and flower drop.* New Guinea impatiens are highly susceptible to moisture stress. If the plants are allowed to wilt, they will drop leaves and flowers. Keep the plants well watered at all times.
 2. *Slow growth, pale or mottled leaves.* New Guinea impatiens are very heavy feeders and growth will suffer if high fertility levels are not maintained. Monitor soluble salt levels on a regular basis to ensure that the plants are getting enough fertilizer for adequate growth.

VI. Postharvest considerations

- A. New Guinea impatiens are normally sold after the first flower opens.
- B. The plants should be properly identified for the consumer with some type of label that specifies both the species and the cultivar.
- C. Water the plants well before shipping to prevent drying out while in transit.
- D. Handle the plants with care to prevent damage.
- E. Inform the retailer of the proper care required by the plants.
 1. The plants should be unboxed immediately upon receipt. Extended boxing may cause undesirable effects such as leaf or bud drop.
 2. Plants should be given adequate space in a semi-shady location.
 3. The retailer should check for the need for water several times a day. This is very important with New Guinea impatiens because of their high water demands.

4. New Guinea impatiens should be marketed from a greenhouse type structure if possible. When sheltered in this manner the plants will be protected from the drying effects of the wind. Such a structure will also protect the plants from cool night temperatures common during the early part of the marketing period.

More Publications from Your Cooperative Extension Service

There are many other publications available from the Cooperative Extension Service that discuss producing flowers and plants. For a complete listing contact your Cooperative Extension Service office, or write to:

MSU Bulletin Office
Michigan State University
10-B Agriculture Hall
East Lansing, MI 48824-1039.

- Some of the more recent publication titles include:
- E-1580, *Producing Impatiens for Profit*. Price 60 cents, for sale only.
 - E-1663, *Producing Salvia for Profit*. Price 60 cents, for sale only.
 - E-1996, *Producing Seed Geraniums for Profit*. Price 40 cents, for sale only.
 - E-2069, *Chrysanthemum Pot Plant Production*. Price 50 cents, for sale only.
 - E-2136, *Producing Tuberous Begonias*. Price 60 cents, for sale only.

LYNN H. GOULD
COUNTY EXTENSION DIRECTOR
COUNTY BUILDING
GARRISON, MICHIGAN 48820



MSU is an Affirmative Action/Equal Opportunity Institution. Cooperative Extension Service programs are open to all without regard to race, color, national origin, sex, or handicap.

Issued in furtherance of Cooperative Extension work in agriculture and home economics, acts of May 8, and June 30, 1914, in cooperation with the U.S. Department of Agriculture. J. Ray Gillespie, Acting Director, Cooperative Extension Service, Michigan State University, E. Lansing, MI 48824.

This information is for educational purposes only. Reference to commercial products or trade names does not imply endorsement by the Cooperative Extension Service or bias against those not mentioned. This bulletin becomes public property upon publication and may be reprinted verbatim as a separate or within another publication with credit to MSU. Reprinting cannot be used to endorse or advertise a commercial product or company.