MICHIGAN STATE UNIVERSITY
COOPERATIVE EXTENSION SERVICE

A COMMERCIAL GROWER'S GUIDE

# Producing Impatiens for Profit

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## I. HISTORY

A. Impatiens are members of the balsam family (Balsaminaceae) which includes nearly 500 species.

B. The species used for bedding plants is *Impatiens wallerana* (which includes *I. holstii* and *I. sultanii*).

C. Impatiens were first found in East Africa in 1896 by Sir J.D. Hooker.

D. Impatiens are also known as Touch-Me-Nots. This refers to the way ripe seed pods burst open when touched.

E. Impatiens have gained popularity primarily because they bloom profusely all summer under shade conditions.

F. Impatiens also are low-maintenance bedding plants.

## II. CULTIVARS

A. The new, greatly improved $F_1$ hybrid strains have helped boost sales. $F_1$ hybrids exhibit:
1. superior seed germination
2. increased vigor
3. more numerous flowers
4. dwarf habit; no pinch is necessary

B. Popular flower colors include: bright orange (Blaze), white, red, salmon, orange and pink.

C. Varieties are available with green or bronze foliage.

D. The most popular varieties (grouped by height) are listed below:
1. 8-10 inches tall
   a. Super Elfin Series
   b. Minette Series
   c. Twinkles Series (bicolor)
   d. Cinderella Series
2. 10-12 inches tall
   a. Fantasia Series
   b. Futura Series
   c. Blitz (light bronze foliage)
   d. Ripples Series (bicolor)
   e. Novette Series
   f. Shadeglow Series
3. 12-14 inches
   a. Grande Series
   b. Imp Series
4. Inbred Varieties
   a. Tangeglow
   b. Baby
   c. Blaze

## III. PROPAGATION

A. Impatiens are primarily grown from seed.
1. There are 40,000 to 50,000 seeds per ounce.
2. For best results, use hybrid seed from reliable sources and order new seed each year.

B. Good germination requires:
1. high humidity: 90-95%
2. air temperature: 70-75°F
3. soil temperature: at least 70°F
4. light
5. porous media mix that includes organic matter

C. Sowing seeds
1. Before sowing, soak flat and media with water to the point of run-through. Let the flat stand a while and soak again to be sure the media is thoroughly moist.
2. Sow seeds in rows 1½" apart and ¾" deep in peat-lite mix.
3. Do not sow seed too thickly, or seedlings may become too soft and susceptible to diseases such as Rhizoctonia.
4. Impatiens require high aeration and light for maximum, uniform germination.
   a. Do not cover seed if using a mist system.

b. If no mist is used, cover seed with a light sprinkling (¼") of very fine vermiculite to retain moisture, but still allow light to reach seed.

5. Place flats under red lights, such as warm white fluorescent lights.
   a. Red light hastens germination (seeds will germinate in 3-5 days).
   b. Leave the lights on for 24 hours a day until seeds have germinated.
   c. Remove the light source or switch to cool white fluorescent lights immediately after germination, or the seedlings will etiolate and stretch.
6. Keep the seed flat moist; any drying out will cause sudden death of the seedlings.
   a. Water with a fine waterfog nozzle (70°F water).
   b. Maintain high humidity around seedlings by covering the flats with clear polyethylene or glass.
      1. Leave the flats covered with the polyethylene or glass until seedlings are ¼" tall.
      2. Be able to lift the plastic for watering and on warm or sunny days.
      3. Do not let plastic touch the seedlings; this could cause burning.
7. When seeds are well germinated, reduce night temperature to 60-65°F.
8. Seeds germinate in 14-21 days under greenhouse conditions. However, leave the seedlings in flat an additional 14 days to harden plants and maximize the number of plants produced.

## IV. TRANSPLANTING

A. Seedlings can be transplanted 4-5 weeks after sowing. Seedlings should be about 1" tall.

B. Grow on at 60-65°F night temperature with a 70-75°F day temperature.

C. Transplant into trays, flats or 3" pots.

D. Transplanting must be handled carefully.
   1. Damage to stems will cause dieback.
   2. This damage will show up in 2-3 days.
   3. Seedlings are very soft and easily damaged.

E. Transplant into a thoroughly moist, but not wet medium.

F. Water thoroughly, using a fine water breaker and warm water.

## V. GROWING

A. Media

1. Impatiens can be grown in soil or soilless media.
2. Peat-lite mix gives most consistent results.
3. The media must provide good aeration, drainage and moisture-holding capacity.
4. The ingredients for a typical bedding plant peat-lite mix are:
   50% peat/50% perlite or 50% peat/50% vermiculite by volume
   11 bushels peat, 11 bushels vermiculite per cubic yard*
   5 pounds fine dolomitic lime (this will vary regionally)
   2 pounds superphosphate 0-20-0
   1 pound potassium nitrate
   2 pounds Osmocote (14-14-14)
   3 ounces wetting agent
   4 tablespoons F.T.E.
5. Send sample of initial soil mix to soils lab for complete analysis. Make necessary adjustments to soil before planting.
6. Before planting, know the pH and soluble salt content of the soil, using a pH meter and solubridge.

B. Fertilization

1. A general recommendation is to fertilize lightly (100 ppm of N and K) every second or third watering.
2. Low levels keep the growth compact and plants hard.
3. Overfeeding Impatiens produces excessive vegetative growth and results in poor flower production. The resulting plants are too tall and spindly.
4. Spot check pH and soluble salts weekly.

C. Daylength has no effect on Impatiens.

D. Spacing in the greenhouse

1. Place flat to flat with a 2' center aisle (utilize at least 90% of greenhouse).
2. Raise plants off the ground to prevent rooting into the greenhouse floor and to curtail disease problems.

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* *one cubic yard = 27 cubic feet or 22 bushels. However, since 15-20% shrinkage occurs in mixing, add 4 bushels for one full yard of mix Therefore, 26 bushels equals one yard.*

Crop Calendar for May Sales of Impatiens

| JANUARY | | | | FEBRUARY | | | MARCH | | | APRIL | | | | MAY | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WEEK: 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| | | | | | | | X | *Sow* | | X | *Transplant* | | | | | | X | *Flower* | |

**See Fig. 1 (page 4) Weekly Stages in Development of Impatiens.**

E. Growth regulators
   1. Impatiens do respond to B-Nine.
   2. Apply 6-7 weeks after sowing at spray 0.5%.

## VI. TIMING

A. Total time for Impatiens crop is 8-10 weeks for pack sales and 12-14 weeks for individual pots and hanging baskets.

B. Schedule (pack sales):
   Week 8: Sow seed (70-75% night temperature)
   Week 11: Seeds germinated (60-65° night temperature)
   Week 13: Transplant seedlings
   Week 18: Flowering plants for sale

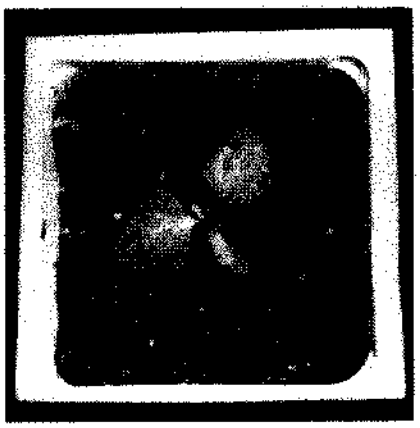
## VII. PROBLEMS

A. Insects
   1. Aphids
      a. Aphids are tiny, crawling plant lice that suck plant juices and cause plants to be stunted.
      b. They are often found on the growing tips or under leaves.
   2. Thrips
      a. Thrips are extremely small insects that can be found on the growing tips of plants.
      b. Thrips cause distorted leaves.
   3. Spider mites
      a. Spider mites are found primarily on the underside of leaves.
      b. They reproduce faster in warmer temperatures.
      c. Spider mites suck plant juices and can cause plants to be chlorotic or necrotic.

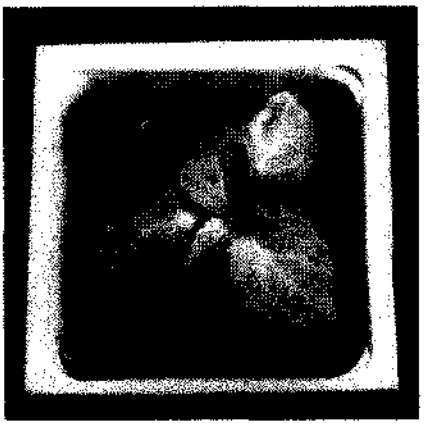
B. Diseases
   1. Botrytis
      a. Botrytis is a foliar disease which appears under cool, moist conditions.
      b. Prevent botrytis by providing good air circulation and practicing good sanitation.
      c. Avoid placing flats right on the ground in early spring.
      d. Avoid free moisture on foliage and flowers.
   2. Rhizoctonia and Phythium damping off diseases
      a. Damping off occurs primarily in seed flats and causes the death of seedlings.
      b. Steam or chemical treatment of the soil will help prevent this problem.

C. White top leaves
   1. Usually plants are being grown under too cool conditions.
   2. This could also be caused by a high pH.

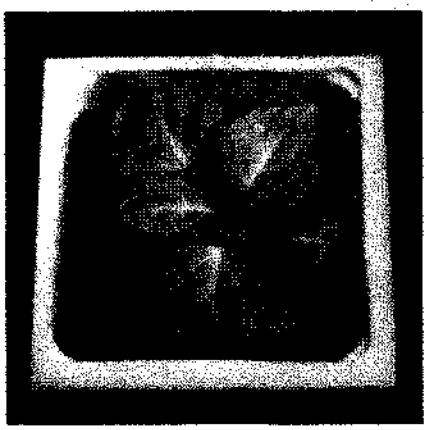
D. Excess foliage and too few flowers
   1. This could be caused by too much fertilizer, especially nitrogen.
   2. Another cause could be too much water.



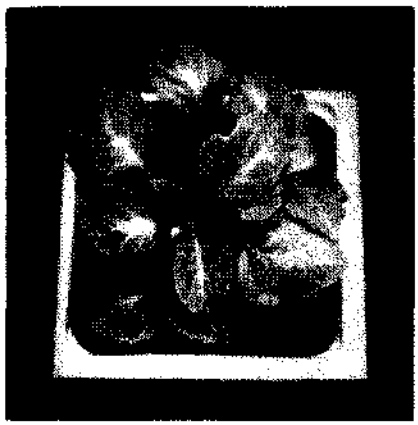
**WEEK 13**
**Transplant (seed sown on week 8)**



**WEEK 14**



**WEEK 15**



**WEEK 16**

**WEEK 17**

**WEEK 18**
**(total crop time 10 weeks)**

**(Fig. 1 — Weekly Stages in Development of Impatiens)**

**FILE: 26.21**



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