

## Impatiens Accent

(*Impatiens walleriana*)

### Germination

**Germination** – Optimum conditions for seedling development that begins the day the crop is sown until cotyledon expansion. Expect radicle emergence in 3 – 5 days.

**Cover:** Seeds may be covered with a light layer of medium vermiculite to maintain moisture levels

#### Media:

- pH: 6.2 – 6.5 Low pH (<5.5) may promote shoot tip abortion and allow sodium to become toxic.
- EC: 0.5 – 0.7

**Light:** Light is necessary for germination. If utilizing a chamber, providing a light source of 10 – 100 foot candles (100 – 1000 lux) will improve germination and reduce stretch.

**Moisture:** Saturated (5) for days 1 – 2 or until radicle emergence. On days 3 – 7 reduce moisture to wet (4). On days 4 – 10 reduce moisture further to moist (3). After day 11, reduce again to medium (2) until cotyledon expansion. Do not allow seedlings to go into night-time hours with wet foliage as this may encourage tip abortion.

**Humidity:** 100% until radicle emergence then reduce to 40 – 70%.

**Dehumidify:** Provide horizontal airflow to aid in drying down the media through evapotranspiration, allowing better penetration of oxygen to the roots.

**Temperature:** 72° – 75°F (22° – 24°C). Temperatures exceeding 77°F (25°C) may induce Thermodormancy which inhibits germination of *Impatiens*. Temperature below 71°F (21°C) will decrease the speed and uniformity of germination. Temperatures below 65°F (18°C) may cause tip abortion and leaf malformation.

### Plug Production

**Germination** – Optimum conditions for seedling development that begins the day the crop is sown until cotyledon expansion. Expect radicle emergence in 3 – 5 days. Cover: Seeds may be covered with a light layer of medium vermiculite to maintain moisture levels.

#### Media:

- pH: 6.2 – 6.5 Low pH (<5.5) may promote shoot tip abortion and allow sodium to become toxic.
- EC: 0.5 – 0.75

**Light:** Light is necessary for germination. If utilizing a chamber, providing a light source of 10 – 100 foot candles (100 – 1000 lux) will improve germination and reduce stretch.

**Moisture:** Saturated (5) for days 1 – 2 or until radicle emergence. On days 3 – 7 reduce moisture to wet (4). On days 4 – 10 reduce moisture further to moist (3). After day 11, reduce again to medium (2) until cotyledon expansion. Do not allow seedlings to go into night-time hours with wet foliage as this may encourage tip abortion.

**Humidity:** 100% until radicle emergence then reduce to 40 – 70%.

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**Plug Bulking/Flower Initiation** – Optimum conditions during the vegetative period, beginning at cotyledon expansion, needed for the root to reach the edge of

the plug cell; AND to make the plant receptive to flower initiation.

#### Media:

- pH: 6.2 – 6.5
- EC: 0.75 The total nutrients from the water and fertilizer should not exceed 1.0 EC to avoid leaf malformations. If media EC is >1.25, shoot tip abortion may occur.

**Light:** Provide 2500 foot candles (25,000 lux). Supplemental lighting at 350 – 450 foot candles (3500 – 4500 lux) for 2 weeks will help to produce vigorous, strong-stemmed seedlings in regions where light levels are low. Lighting for more than 2 weeks during early plug stages can result in bleaching or yellowing of leaves (photo-oxidation).

**Temperature:** 66° – 68°F (18° – 20°C) until first set of true leaves. Reduce to 62° – 65°F (16° – 18°C) to tone and hold.

**Moisture:** Alternate between moisture levels wet (4) and medium (2). Allow media to approach level (2) before re-saturating to level (4).

**Humidity:** 40 – 50% and higher.

**Fertilizers:** Fertilize from day 2 through day 9 at 25 – 50 ppm Nitrogen with a calcium-based fertilizer (14-0-14). Then continue feed at 75 – 100 ppm Nitrogen every 2 – 4 waterings with a fertilizer containing both potassium and calcium nitrate. Minimal use of fertilizer will keep seedlings compact and promote flowering. Avoid phosphorus which may stretch impatiens seedlings. Injection of phosphoric acid to water lines may also affect plug quality.

**Growth Regulators:** Impatiens is responsive to B-Nine (daminozide), Bonzi (paclobutrazol) or Sumagic (uniconazole). However, careful monitoring of water, light and fertilizer applications can keep growth in check. Downward cupping or twisting of immature leaves may be caused by over use of PGR's. Xtreme has a different PGR regime than other impatiens. On 'Xtreme', it is recommended to use PGR's in the plug stages and control growth later through water and fertilizer management in the finishing stages. Under high temperature and humidity conditions, PGR's may help

tone the crop.

## Growing On to Finish

**Transplant Ready:** 4 – 5 weeks from sow in a '288' tray.  
**Finish Bulking/Flower Initiation** – Optimum conditions during the vegetative period, beginning at transplant, needed for the root to reach the edge of the container; AND to make the plant receptive to flower initiation.

#### Media:

- pH: 6.2 – 6.5
- EC: 0.75 – 1.0

**Light:** Provide a light shade.

**Temperature:** 60° – 65°F (16° – 19°C) nights; 70° – 75°F (21° – 24°C) days.

**Average Daily Temperature (ADT):** 67°F (19°C)

**Moisture:** Alternate between moisture levels wet (4) and medium (2). Allow media to approach level (2) before re-saturating to level (4).

**Humidity:** 40 – 70%

**Dehumidify:** Provide horizontal airflow to aid in drying down the media through evapotranspiration, allowing better penetration of oxygen to the roots.

**Fertilizers:** 75 – 100 ppm Nitrogen every 2 – 3 waterings with a calcium-based fertilizer (13-2-13 or 14-4-14). Minimal fertilizer will keep plants compact and promote flowering. Tall, lush, dark green plants with flowers beneath the foliage or late flowering indicates too much fertilizer.

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#### Pre-Shipping Techniques to Enhance Post Harvest Quality

**When to Treat:** 1 – 2 weeks prior to shipping

**Growth Regulators:** Spray application of B-Nine (daminozide) at 2500 – 3500 ppm



**Fertilizer:** Potassium nitrate at 150 ppm.

**Common Diseases:** Pythium Root Rot, Botrytis Blight, Tomato Spotted Wilt Virus, Impatiens Necrotic Virus, Alternaria Leaf Spot, Pseudomonas and Rhizoctonia.

**Common Pests:** Fungus Gnats, Thrips, Aphids and Spider Mites

**SCHEDULING**

**288 Plug crop time:** 4 – 5 weeks

**Transplant to finish crop time:**

Packs: 5 – 6 weeks

4" crop: 6 – 7 weeks

6" crop: 7 – 8 weeks

