



Unique, picotee-patterned varieties are very popular at retail. As a novelty item, Swirl can be priced as a premium bedding plant. Well-suited to gardens, baskets and window boxes. Packs will flower in 7 to 8 weeks.

Germination

Do not cover seed. Impatiens require more than 10 f.c. (100 Lux) of light for optimum germination.

Plug Production

Stage 1 – Time of radicle emergence (3 to 5 days)

- Keep media very moist and near saturation.
- Do not cover or bury the seed.
- Germination temperature: 72 to 76°F (22 to 24°C).
- Light levels at 100 to 400 f.c. (1,000 to 4,000 Lux) will enhance germination.
- Keep soil pH at 6.0 to 6.2 and soluble salts (EC) less than 0.75 mmhos/cm (2:1 extraction). Keep ammonium levels less than 10 ppm.
- Impatiens are sensitive to high salts during germination.

Stage 2 – Stem and cotyledon emergence (10 days)

- Reduce moisture levels once radicle emergence occurs. Allow the soil to dry out slightly before watering for best germination and rooting.
- Soil temperature should be 72 to 75°F (22 to 24°C).
- Light at 450 to 700 f.c. (4,500 to 7,000 Lux) using supplemental HID lights for two weeks after cotyledons have expanded (12 to 18 hours/day) decreases plug crop time.
- Maintain ammonium levels at less than 10 ppm and soil pH at 6.0 to 6.2 with an EC of less than 1.0 mmhos/cm.
- Begin fertilizing with 50 to 75 ppm N from 14-0-14 or a calcium/potassium nitrate feed once cotyledons are fully expanded.
- Alternate feed with 2 to 3 clear water irrigation.

Stage 3 – Growth and development of true leaves (14 to 21 days)

- Allow the soil to dry out thoroughly between irrigations, but avoid severe wilting to promote root growth and control shoot growth.
- Soil temperature should be between 68 to 72°F (20 to 22°C).
- Maintain soil pH 6.0 to 6.2 and EC less than 1.0 mmhos/cm.
- Increase feed to 100 to 150 ppm N from 20-0-20 alternating with 14-0-14 or other calcium/potassium nitrate fertilizer.
- Fertilize every 2 to 3 irrigations.
- Use DIF (temperature differential) whenever possible to control plant height – especially the first 2 hours after sunrise. A-Rest, B-Nine, Bonzi or Sumagic can also be used.

Stage 4 – Plants ready for transplanting or shipping (7 days)

- Soil should still be allowed to dry thoroughly.
- Temperature should be maintained at 62 to 65°F (17 to 18°C).
- Keep soil pH at 6.0 to 6.2 and an EC less than 0.75 mmhos/cm.
- Fertilize with 14-0-14 or calcium/potassium nitrate feed at 100 to 150 ppm N as needed.

Note: Impatiens require low to moderate feed levels. Excessive amounts will result in lush, vegetative stretched plugs.

Growing On to Finish

Temperature

Night: 62 to 65°F (17 to 18°C)
Day: 65 to 75°F (18 to 24°C)

Light

Maintain light levels as high as possible while maintaining moderate temperatures.

Media

Use a well-drained, disease-free soil less medium with a medium initial nutrient charge and a pH of 6.2 to 6.8.

Fertilization

Fertilize every other irrigation with 15-0-15, alternating with 20-0-20 at 150 ppm nitrogen.

Maintain medium electrical conductivity around 1.0 mmhos/cm (using 1:2 extraction).

Controlling Height

Once plants are rooted to the sides of the containers, they can be allowed to wilt prior to irrigation to provide some height control.

Height can also be controlled by withholding fertilizer, especially phosphorus and ammonium-form nitrogen.

Impatiens are responsive to day/night DIF and shorter with a negative DIF

B-Nine, Bonzi and Sumagic are effective for height control, but not labeled for use in all locations. Always follow label instructions. B-Nine and Bonzi can delay flowering.

In northern European conditions: A tank mix of Alar 5 g/l and Cycocel 0.5 ml/l has been tested and shown to provide good control.

Light

Impatiens are shade plants and should not be exposed to excessive amounts of sun. If properly hardened, impatiens can handle up to 4 hours of morning sun.

Common Problems

Insects: Aphids, thrips

Diseases: *Pythium*, *Rhizoctonia*, *Botrytis*, TSWV/INSV (Impatiens Necrotic Spot Virus)

Other: Boron deficiency, high media pH

The most important disease and insect problem associated with impatiens is *Impatiens Necrotic Spot Virus (INSV)*, which is transmitted by thrips. Control of thrips is necessary to avoid INSV.



Culture Information

Seed Count: 35700 /oz. 1250 /g.	Sow to transplant 512 plug				
	STAGE 1	STAGE 2	STAGE 3	STAGE 4	Finishing
Crop Time	3-5 days	10 days	14-21 days	7 days	* see table below
Temp :					
Soil	75 - 78 ° F.	72 - 75 ° F.	68 - 72 ° F.	62 - 65 ° F.	
Night	72 - 76 ° F.				62 - 65 ° F.
Day					65 - 75 ° F.
Moisture	Wet	Medium	Medium	Dry	Dry
Light (fc.)	100 - 400	500 - 1,000	1,000 - 1,500	1,500 - 2,500	2,500 - 3,500
Cover seed?	No				
Fertilizer :					
Rate (ppm.)		50 - 75	100 - 150	100 - 150	100 - 150
Form		14-0-14	20-10-20 14-0-14	14-0-14	20-10-20 15-0-15
Frequency		1X/week	1X/week alternate	1X/week	alternate every other irrigation
Soil PH	6 - 6.2	6 - 6.2	6 - 6.2	6 - 6.2	6.2 - 6.8
Soil EC (mmhos/cm)	< 0.75	< 1	< 1	< 0.75	< 1
Plant growth regulators			A-Rest B-Nine Bonzi Sumagic	A-Rest B-Nine Bonzi Sumagic	A-Rest B-Nine Bonzi Sumagic

Finishing Programs			
Container Size	Season	Plants/Container	Crop Time (weeks)
4" Pot	Spring	1	5-6