

## Begonia (Tuberous) On Top® F<sub>1</sub> Series

(*Begonia x tuberosa*)

Annuals Culture (revised 03/05/20)

### Big, bold begonias

Tuberous begonia series provide a wide selection of colours, including unique bicolours, along with some of the world's largest blooms! This exciting collection can be sold at a premium price point at retail, and it results in faster turnover in the market.

**Plug crop time:** 7 to 8 weeks

**Transplant to finish:** 8 to 13 weeks

- Offering a collection of novelty colours, the On Top varieties tolerate more heat and sunlight than other begonias.
- Mounded plants show off many 2 to 5-in./5 to 13-cm flowers.
- On Top begonias bloom early and flower longer than other varieties.

## General Information

Exposure	Bloom Season	Height	Spread	Spacing
Shade, Partial Sun	Spring, Late Spring, Summer, Autumn	10-12 in. (25-30 cm)	10-12 in. (25-30 cm)	10-12 in. (25-30 cm)

## Germination

Seed Form	Recommended Plug Size	Seeds/Cell	Plug Crop Weeks	Days to Germinate	Initial Media pH/EC (1:2)	Cover Seed
PEL	288	1	7-8	7-14	5.5-6.0 pH 0.5 mmhos/cm	No

## Plug Production

	Stage 1	Stage 2	Stage 3	Stage 4
<b>Moisture</b>	Level 5	Level 4-5	Level 3-4	Level 3-4
<b>Temperature</b>	72-76°F (22-24°C)	68-72°F (20-22°C)	65-68°F (18-20°C)	62-68°F (17-20°C)
<b>Light</b>	Light	350-600 f.c. (3,800-6,500 Lux)	350-600 f.c. (3,800-6,500 Lux)	500-1,000 f.c. (5,400-10,800 Lux)
<b>Fertilizer</b>		Less than 100 ppm N (Less than 0.7 EC)	Less than 100 ppm N (Less than 0.7 EC)	Less than 100 ppm N (Less than 0.7 EC)

### Fertilizer Notation

Avoid high salt levels in the substrate, as it can cause leaf burn.

### Propagation Key Tips

Keep moisture high until the first true leaf develops. Once cotyledons are visible, maintain moist but not saturated media to promote root development. Avoid using ammonium nitrate during plug development, as it may inhibit root growth. A minimum 14-hour photoperiod lighting is required to avoid tuber formation and improve quality. Avoid strong sunlight (>2,000 foot candles). Strong sunlight will cause high leaf temperature and result in burned leaf edges.

## Growing on to Finish

Growing on Temperature	Target Media pH/EC (1:2)	Fertilizer	Daylength
<b>(day)</b> 70-72°F (21-22°C) <b>(night)</b> 62-68°F (17-20°C)	5.5-5.8 pH 1.0-1.5 mmhos/cm	175 to 225 ppm N (1.2 to 1.5 EC)	Obligate Long Day

## Daylength Notation

Maintain a minimum of 14-hour photoperiod of light for active growth. A photoperiod of less than 12 hours will result in small single flowers and an uneven crop, and plants will form tubers.

## Crop Scheduling

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Container Size	Plugs/Pot	Crop Time	Season	PGR
4"/4.5"/Quart	1 (ppp)	8-9 (weeks)	Spring	chlormequat chloride 300-500 ppm Spray
5"/6"/1 Gallon	1 (ppp)	9-10 (weeks)	Spring	chlormequat chloride 300-500 ppm Spray
12" Pot or HB/5 Gallon	4 (ppp)	12-13 (weeks)	Spring	chlormequat chloride 300-500 ppm Spray

## Fertilizer Notation

Moderate fertilization levels are required. It is advisable to fertilize several times with low concentrations weekly. Fertilize crop, alternating with 150 to 200 ppm nitrogen, using a complete and potassium balanced fertilizer. Keep ammonium levels low to avoid damaging the roots. At high nitrogen levels, the foliage can become very big. Avoid pH above 6.0, as high pH causes iron deficiency. Apply chelated iron if chlorosis becomes a problem. To prevent magnesium deficiency, apply magnesium sulphate 1 to 2 times. Additional foliage fertilization with potassium supports compact plant growth, and the foliage will be a dark green color.

## Common Problems

Monitor Aphids and thrips; preventative programs for powdery mildew are beneficial. Monitor Botrytis.

## Finishing Key Tips

Do not overwater plants to prevent root issues. Keep humidity low (between 40 to 60%) to avoid problems with powdery mildew. For height control, a negative DIF of 2 to 3 degrees is very effective to prevent stretching of plants. When using a negative DIF, less to no PGRs are needed.

NOTE: Growers should use the information presented here as guidelines only. PanAmerican Seed recommends that growers conduct a trial of products under their own conditions. Crop times will vary depending on the climate, location, time of year, and greenhouse environmental conditions. It is the responsibility of the grower to confirm the treatment is available in their region as well as read and follow all the current label directions relating to the products. Nothing herein shall be deemed a warranty or guaranty by PanAmerican Seed of any products listed herein. PanAmerican Seed's terms and conditions of sale shall apply to all products listed herein.

## Variety Pictures

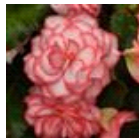
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Fandango



Melon Lace



Pink Halo



Sun Glow



Sunset Shades

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