

# Begonia x hybrida

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Central Europe  
North Europe



Tophat – 12 cm

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# Finished Plant *Begonia x hybrida*

Series 	Type 	Leaf colour 	Pot size 	Plants/m <sup>2</sup> finished 
Tophat	vigorous	green	12 cm	25 plants/m <sup>2</sup>
		green	13 cm	20 plants/m <sup>2</sup>
		green	15 cm	16 plants/m <sup>2</sup>
		green	17 cm	12 plants/m <sup>2</sup>

## Remarks

N.A

Calendar Week	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
Scheduling from tray 128 for 12 cm pot at an average daily temperature (ADT) of 20°C, adjusted to light levels	P					F	F											
		P					F	F										
			P					F	F									
				P					F	F								
					P					F	F							
						P					F	F						
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								P					F	F				
									P					F	F			
										P					F	F		

# Cultivation Advice

Tophat has neutral response to day length. For optimal crop time keep average daily temperature at 18-21°C. Transplant plugs from tray after delivery to avoid stretch of plants and delays in crop development.



## Fertilization & Substrate

Use balanced fertilization N:K = 1:2 with 150 ppm nitrogen weekly. Avoid low levels of Ca and Mg in substrate and keep pH in range 5,4-5,8.



## Spacing

Tophat branches very well. To avoid stretching and PGR applications, we recommend spacing in week 4 after potting.



## Light

Daily light integral 12 -20 mols/day if less than 12 supplemental HID daily lighting is recommended.



## Irrigation

For optimal crop timing and plant habit keep substrate alternate between moisture level 4 - 2.



## PGR Applications

Tophat has none to very little need for PGR. If needed 2-4 ppm Paclobutrazol ( Bonzi) or 2500 ppm of Daminozide (B9/Alar). Also possible chloromequat chloride (Cycocel) 300 ppm.



## Pests

Aphids, Thrips



## Diseases

Botrytis






# Recommendations

Culture guideline at optimum average daily temperature 20°C:





Culture week	1	2	3	4	5	6
Handling	P			S	F	F
Temperature D/N	18–19°C					
Light	If day light integral (DLI) is less than 12 mols/day					
Shading	500 - 600 W/m <sup>2</sup>					
Humidity	50–70%					
Moisture	2-4 (alternating)					
pH	5,4–5,8					
EC growing medium	1,25 - 1,5 mS/cm					
EC feeding in mS/cm	1,5 - 2,0 mS/cm					
Fertilizer	N : K 1 : 2					

## Legend







### Soil moisture level

	5	<b>saturated:</b> water is easily observed. When the substrate is touched, water moves out freely from top to bottom.
	4	<b>wet:</b> water is not easily observed. When the substrate is touched, there is very little movement of water from top to bottom.
	3	<b>moist:</b> the substrate is black but not glistening. When the substrate is touched, there is water, but virtually no water movement.
	2	<b>medium:</b> the substrate turns from dark to medium brown. There is no water movement when touched.
	1	<b>dry:</b> the substrate changed color to very light brown.








### Culture stages Cuttings / Seeds

	callus development / germ1, radicle emergence
	root development / germ2, cotyledon expansion
	leaf development / plug bulking
	plug finishing / plug finishing










### EC zones feeding mS/cm

	1	0,5–1,0 mS/cm
	2	1,0–1,5 mS/cm
	3	1,5–2,0 mS/cm
	4	2,0–2,5 mS/cm
	5	2,5–3,0 mS/cm
	6	3,0–3,5 mS/cm







### EC zones growing medium mS/cm (Sonneveld 1:1,5)

	1	0,5–0,75 mS/cm
	2	0,75–1,0 mS/cm
	3	1,0–1,25 mS/cm
	4	1,25–1,5 mS/cm
	5	1,5–1,75 mS/cm
	6	1,75–2,0 mS/cm
	7	2,0–2,25 mS/cm




### Temperature zones

	1	0–5°C
	2	5–8°C
	3	8–12°C
	4	12–14°C
	5	14–16°C
	6	16–18°C
	7	18–20°C
	8	20–22°C
	9	>22°C

### Light zones

	1	total darkness
	2	short day <12 h/short day treatment
	3	shaded
	4	no-shading / natural light
	5	supplemental light > 14 h/long day treatment
	6	night interruption

### Shading

	1	shading > 250 W/m <sup>2</sup>
	2	shading > 450 W/m <sup>2</sup>
	3	shading > 750 W/m <sup>2</sup>

<b>ST</b>	sticking URC	<b>PC</b>	plastic cover
<b>RD</b>	root development	<b>L</b>	lift cover
<b>SC<sub>0</sub></b>	sowing no Vermiculite cover	<b>G</b>	gapping
<b>SC<sub>1</sub></b>	sowing plus light Vermiculite cover	<b>TP</b>	transplanting
<b>SC<sub>2</sub></b>	sowing plus medium Vermiculite cover	<b>T</b>	ypl transplanting
<b>SC<sub>3</sub></b>	sowing plus thick Vermiculite cover	<b>C</b>	cover to protect from frost
<b>RE</b>	radicle emergence	<b>PGR</b>	PGR treatment (spray)
<b>Cot</b>	cotyledon	<b>PD</b>	PGR treatment (drench) or heavy spray
<b>M<sub>1</sub></b>	mist day and night	<b>X</b>	pinch
<b>M<sub>2</sub></b>	mist day – dry night	<b>DB</b>	disbud
<b>W</b>	end mist	<b>P</b>	potting
<b>FC</b>	fleece cover	<b>S</b>	spacing
<b>PC</b>	plastic cover	<b>F</b>	flowering
		<b>LF</b>	leaf removal and maintenance