



# Pelargonium zonale

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Central Europe  
North Europe

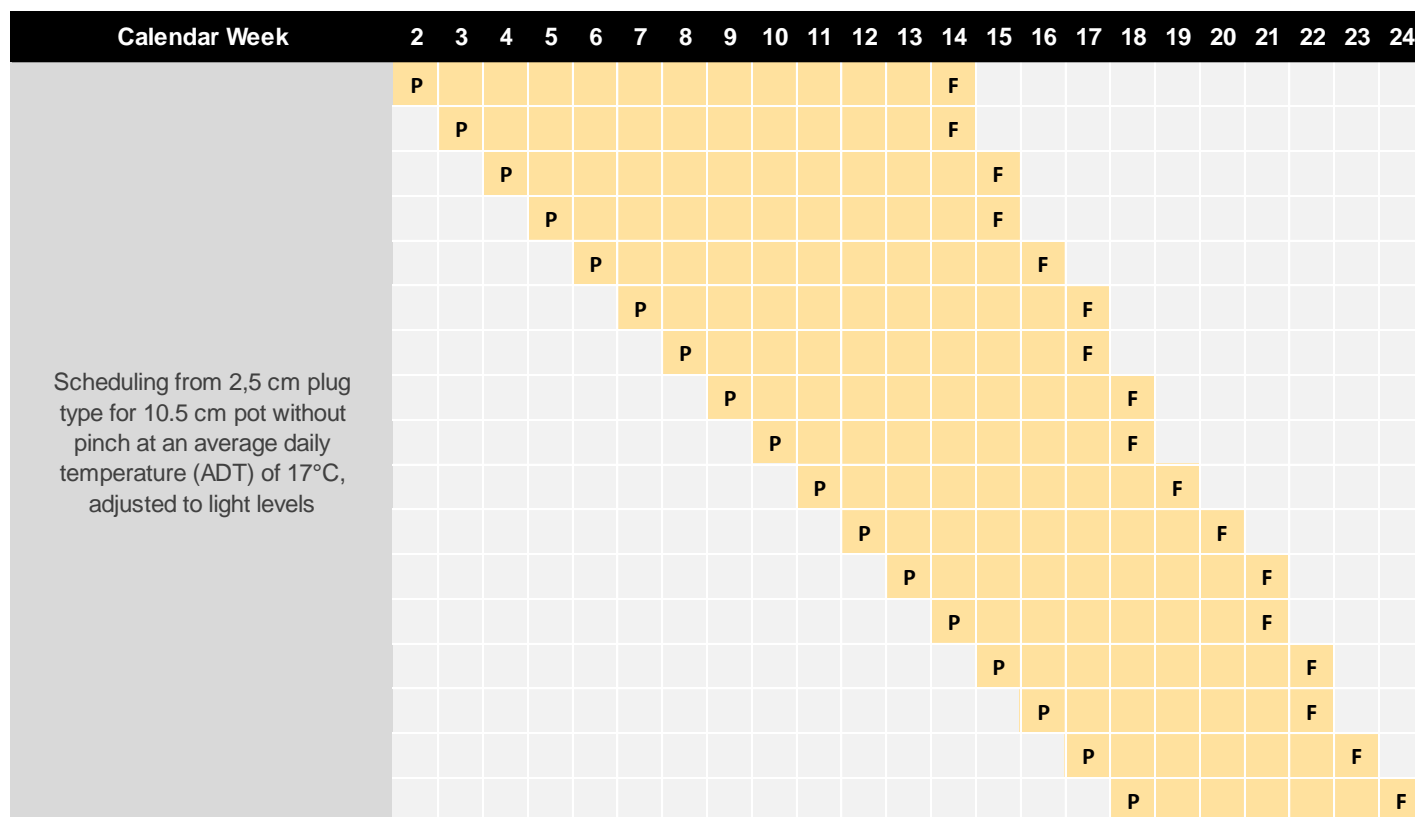


Tango  
Compact line  
Classic  
Americana

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# Finished Plant Pelargonium Zonale

Series 	Type 	Leaf colour 	Pot size 	Comment
Tango	compact	dark green	10.5–12 cm	focus on 10,5 – 11 cm
Compact line	compact	green	10.5–12 cm	focus on 10,5 – 11 cm
Classic	medium	green	10,5–13 cm	focus on 12 cm
Americana	vigorous	green	12–14 cm	focus on 12 cm plus



## Remarks

Temperature has to be adapted to lower light conditions in January and February. Pelargoniums are light sum flowering—late potting weeks or high light conditions influence the crop time very strong. Avoid late PGR treatments in order not to delay flower development. If plants are pinched please add one–two weeks (depending on season and light) to the crop time.

# Cultivation Advice

Alter temperature set points according to light levels. In fall and winter light levels generally are low and temperature set points are best decreased for optimum plant quality. Please note that lower temperatures will increase culture time. Late crops finished in week 23 and later should not be grown dry and with higher K rates to avoid hardening of the plants.

Assimilation light during the production at a level of > 3,5 kLux is necessary to secure flowering prior to week 18. Ebb&flood or capillary irrigation for the last three weeks of the crop time to avoid damaged flowers and/or botrytis.



## Fertilization & Substrate

Important to keep EC levels of the growing media in the range of 1.5 – 2.0. Measure the EC every week. If EC in the substrate is above 2,0 - use clear water or fertilize with EC < 1,0 until the EC in the substrate is at desired level. Increase the N:K relation to 1: 1,5 after 4 weeks to improve the compact habit of the crop. The use of potassium phosphite ( $\text{KH}_2\text{PO}_3$ ) will strengthen the plant against disease. For better consumer experience CRF with 8 - 9 months is recommended. Details on request.



## Diseases

Botrytis, Pythium, bacterial diseases



## Pests

Aphids, Thrips, Mites, Caterpillars



## Tips & Tricks

Sensitive to Switch (Cyprodinil & Fludioxonil)



## Light

For flowering in the early spring season ( $\leq$  week 18) make sure that plants have maximum of light and that no unnecessary shading in the greenhouse is reducing the radiation. Assimilation light has to be applied when the daily DLI is < 8 mols / day when flowering is desired before week 18 and day length kept above 12 hrs.



## Irrigation

To increase the control of the growth and plant habit, the culture needs to be kept on the dry side moisture level 2–3, instead of 3–4, after the plants have established sufficient root mass.



## PGR Applications






It's very important to apply a PGR application in the first days after planting in order to reach a compact and well shaped end product. Frequent foliar applications are recommended during the time of production, depending on growing conditions and varieties used. CCC as drench and foliar application, other PGR's like Paclobutrazol (Bonzi), or Daminozide (B9/Alar) can be used under increasing light conditions to avoid phytotoxicity. Frequency of application is depending on growing conditions and variety selection. PGR treatment in full flower may damage the flower. Late application might delay flowering. Any PGR applied must be registered for use in both the country used & the region destination.

# Recommendations





Culture week	1	2	3	4	5	6	7	8	9	10	11	12	13
Handling	PGR		S										
Temperature D/N	18 – 19°C		14 – 16°C										
Light	Additional light can cause stretch!												
Shading	500 W/m <sup>2</sup>		☀										
Humidity	50 – 70%												
Moisture	3 – 2												
pH	5,8 – 6,0												
EC growing medium	1,2 mS/cm				1,5 mS/cm								
EC feeding in mS/cm	1,5 mS/cm						2,0 mS/cm						
Fertilizer	N : K 1 : 1				N : K 1 : 1,5								

## Legend







### Soil moisture level

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

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







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

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




### Temperature zones

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

### Light zones

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

### Shading

	<b>1</b> shading > 250 W/m <sup>2</sup>
	<b>2</b> shading > 450 W/m <sup>2</sup>
	<b>3</b> 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>&gt;</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