

# Pot Plant Production

Zantedeschia Technical Bulletin C11/12



## Zantedeschia Pot Plants



Zantedeschia (Calla Lily) pot plants are becoming increasingly popular with their classical shape and appealing colours. Life of the pot can be at least 4 weeks as flowers emerge.

Most consumers prefer to purchase a pot plant with open flowers showing colour or at least in bud. Foliage needs to be balanced and not too tall to allow for easier/cheaper freight. Market opportunities exist for smaller plants in 8cm pots with one bud through to large 30cm pots for patios and balconies with 3 or 4 larger tubers planted.

The various coloured calla hybrids have quite distinct cultivar characteristics. To achieve best results for pot production these cultivars need to be treated differently. There is no exact set pattern for planting as various climates (light and temperature) can affect growth characteristics. What works best in your area should be established by trials for plantings at different times of the year.

### 1. Tubers:

Use pre-germinated tubers that have been prepared with **Gibberellic Acid (GA3)** and fungicide/insecticide (see *Pre-germination – Zantedeschia Bulletin C04/12*). Plant with eyes (shoots) facing up and well covered with at least 3cm of media.

### 2. Media:

Media should be well draining with a pH of 6-6.5. Include slow release NPK fertiliser (**Osmocote®**, **Nutricote®**) and preventative fungicide (e.g. **Risolex®**). Avoid fine particles or high percentage of coco peat which could result in water logged pots.

### 3. Pot size – tuber size:

Pot Size	Tuber	3cm	4cm	5cm	6cm	7cm
		12/14	14/16	16/18	18/20	20+
		1.5-1.75"	2"	2.25"	2.5"	3"
9cm	3.5"					
11cm	4.5"					
12cm	5"					
14cm	6"					
17cm	7"					
19cm	8"					



Pots on right hand side are ready for PGR application

### 4. Plant Growth Regulators (PGR):

**Bonzi®** (paclobutrazol) is the most effective growth and height regulator for Zantedeschia pot plants.

The height of the plants (even with use of PGR) will depend on the variety, temperature, light intensity and day length. High light conditions result in more compact plants with a greater number of flowers and better colour. High temperatures will reduce the cultivation time, but especially in low light (e.g. winter conditions) will lead to weaker, taller plants.

Plants must be actively growing for **Bonzi®** to be taken up by the roots and assimilated.

**Bonzi**<sup>®</sup> is applied as a drench to the emerged growing shoots within ½ to 2 days after watering - ensure that the pots are evenly moist. The first application is made when the shoots are 2-3 cm above the surface of the media (if length of shoots varies grade pots by shoot length and treat slower developing pots for later).

**Rate:** Apply **10ppm Bonzi**<sup>®</sup> in a drench of 50ml water per pot. This rate can be varied from 8-15ppm depending on the variety habit (short to tall varieties).

Second or subsequent treatments may be necessary at 6-10 days intervals if the plants are becoming too tall or for less compact cultivars. Do not treat later than 40 days after shoot emergence. NOTE: over-use of **Bonzi**<sup>®</sup> will reduce flower numbers as it appears to counteract the effect of **GA3**. Normally no more than three applications of **Bonzi**<sup>®</sup> are used.

## 5. Irrigation

Water management using clean, treated water is critical and depends on media drainage capacity and daily evapo-transpiration – i.e. more water is required on a hot day. Keep moisture consistent and avoid extremely dry or wet pots.

## 6. Nutrition

As well as incorporated slow release fertiliser, many growers fertigate with liquid fertiliser. Typical rates to give an **EC of 0.8-1.2** are:

<b>N</b>	125-150ppm	Addition of trace elements including application of <b>Fe</b> (iron chelate @1g/100l) can assist with flower colour, especially in pink and red varieties.
<b>P</b>	30ppm	
<b>K</b>	125-175ppm	
<b>Mg</b>	20-25ppm	
<b>Ca</b>	60-70ppm	

## 7. Greenhouse climate

Stage 1 – **root/sprout development** planting until sprouts are 5-7cm: 24°C days and 18°C nights or constant 20°C  
Stage 2 – **foliage growth** after 1<sup>st</sup> Bonzi application until flower bud emergence: 21-25°C days and 13-16°C nights  
Stage 3 – **flower development** buds start to colour until delivery: 18°C day and 10-13°C nights

Temperatures of 10-13°C can be used to hold the crop for delivery.

Good ventilation/horizontal air movement in greenhouses is essential. Shade can be used to control temperature, but avoid over shading as can lead to weaker, taller plants.

## 8. Crop protection

Drench with fungicide after shoot emergence.

Check the roots regularly by taking plants out of the pots – if there are signs of fungal attack (withering leaves, lesions on roots) drench with **Aliette**<sup>®</sup> (5g/l) for up to 28 days protection. This should only be used once or twice in the crop cycle. A drench of **Ridomil**<sup>®</sup> **Gold EC** (1ml/10m<sup>2</sup>) alternating with **Thiram** (3ml/l) is effective following **Aliette**<sup>®</sup>.

The main pests are thrips and aphids. Control is especially important to halt the spread of virus and to maintain flower quality. Thrips can disfigure flowers well before they become unfurled and may result in a high pot reject rate. A spray programme throughout the preparation of the pot plant is essential.



*Disclaimer - No guarantee of production performance is expressed or implied by BLOOMZ. All chemical products recommended are those found to be appropriate by Calla growers and are a guide rather than registered products with specific application to Zantedeschia (Coloured Calla Lily).*