

Kalanchoe

Description

Name: Kalanchoe blossfeldiana.

Family: Crassulaceae

Varieties: Indoor, outdoor part shaded/full sun

Product use

Use: Indoor, outdoor

Exposure: Part shaded/full sun



Technical recommendations

Photoperiodic needs

Kalanchoe is a short-day plant. For most varieties, 5-6 weeks Short Day are required to complete flower induction, at which time buds will be visible. The response time is the period from beginning of the short day until opening of the first flowers and ranges from 7,5 to 11 weeks. Although within a given response group, flowering can take longer in winter than summer, due to a combined effect of lower temperatures and lower light intensity.

During the vegetative period, provide minimum 16 hours of light. If day length is short, extra night light interruption is required with supplemental light during the night.

For the flower initiation, the plants need short day conditions with a minimum of 14 h of darkness during minimum a minimum period of 5-6 weeks.

Propagation: Most common and efficient is to start with unrooted cuttings for direct sticking. Also starting with rooted cuttings is an option (used mainly for big pot size).

URC

- Unpack cuttings immediately to air out excess of humidity. Stick directly or store them in a cooler until transplanting at 10-13°C (50-55°F) (with humidity > 85%)
- Rooting hormone: generally not needed. Eventually IBA *indo-butiric* acid 0,50%
- Light levels: During the first 1-3 days after sticking maintain <12 Klux, later gradually increase.
- By day 7-9 callus should be visible and by day 12-16 the root system should be developed.
- Rooting temperature 18-20°C (64-68°F)

Growing media: The substrate should provide good drainage, structure stability and permeability. pH is best between 5,7-6,2

Fertilizer: It's recommended a constant feed fertilizer with 0.5-1 gr/l using commercial fertilizer blends that provide all the essential nutrients or a balanced nutrient solution. Ratio 3:1:3 (N:P:K) until bud formation and Ratio 2:1:4 (N:P:K) during the flowering period. Under high temperatures regimen (>25°C), keep the EC at somewhat higher levels to avoid soft plants and stretching. pH 5,7- 6,2.

Technical recommendations

Temperature: Temperature management is crucial to have a top-quality finished plant. Optimum temperature range is between 18-20°C (64-68°F) (day and night). Under 16°C (61°F)the growth is delayed; the quality of the final plant will decline and may cause no flowering. Temperature > 30°C (86°F) will cause soft and stretched plant.

Humidity: Optimum humidity range is between 70-85%. Higher humidity levels and big fluctuations will cause soft, stretched plant and higher risk of diseases, especially powdery mildew. Avoid any sudden changes in temperature and humidity growing condition.

Water management: Media should be allowed to moderately dry between irrigations to prevent root diseases and promote stronger growth. However, avoid drying out and wilting. A medium irrigation frequency with medium-high volume is the best irrigation approach. Avoid overhead watering and never use cold water(>12°C/54°F).

Light: High light levels are needed. Keep light intensities at 50-55 Klux (550-600W/m2) and use shade nets to control the extreme temperatures

Pinching: no pinching is required. All modern varieties are genetically strong in branching

Growth Control: It's crucial to control the plant growth during the early stages to have a strong stem structure to hold the flowers. PGR treatments can should start as soon as the first roots appear during propagation. Consecutive treatments should be done every 1-2 weeks depending on growing conditions and variety until 2 weeks before shipping. Kalanchoes are responsive to Daminozide (B-Nine/Dazinde/Alar) and Chlormequat (Cycocel) or combinations. Rates and frequency depend on variety, pot size, growing conditions and season. Follow the registration uses of each chemical in each country.

Pest and Diseases: Kalanchoes are sensitive to most of the common pests of other greenhouse flowering crops. Especially aphids but also thrips, mites and mealy bugs can be a potential problem. Kalanchoes are very sensitive to all oil-based liquid chemicals and dusting powders. Several bacterial, fungal pathogens and viruses can affect Kalanchoes. Starting with a disease-free cutting and follow a proper sanitation program is the best guarantee to avoid production problems.

Physiological Disorders:

Oedema: depends on environmental conditions. Avoid high humidity conditions and too wet substrates.

Leaf distortions: mainly due to overhead irrigation with fertilizer or/and cold water.

Heat stress: high temperature conditions can cause leaf cupping, leaf necrosis and increased levels of anthocyanins (leaf turns red). This anthocyanin response can also appear under other stress conditions like too high light conditions, too cold, low humidity etc.

Cultural recommendation

Crop schedule * 10,5-13 cm pot. Direct sticking

Winter

Week	1	2	3	4	5	6	7	8	9	10	11	12	13
Production stage	R/L D	R/LD	LD	LD	SD	SD	SD	SD	SD	SD	NOS D	NOS D	NOS D/F

Spring/Summer

Week	1	2	3	4	5	6	7	8	9	10	11	12	13
Production stage	R/L D	R/LD	LD	SD	SD	SD	SD	SD	SD	NOS D	NOS D	NOS D/F	

R: rooting. **LD:** long day. **SD:** short day. **NOSD:** Non obligate short day **F:**Finish

Crop schedule * 10,5-13 cm pot. Rooted Liner

Winter

Week	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Production stage	LD/R	LD/R	LD	P/LD	LD	LD	SD	SD	SD	SD	SD	SD	NOSD	NOSD	NOSD/F

Spring/Summer

Week	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Production stage	LD/R	LD/R	LD	P/LD	LD	SD	SD	SD	SD	SD	SD	NOSD	NOSD	NOSD/F

R: rooting. **P:** potting. **LD:** long day. **SD:** short day. **NOSD:** Non obligate short day. **F:** Finish

NOTE: Growers should use the information presented here as guidelines only. Selecta One 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 read and follow all the current label directions relating to the products. Nothing herein shall be deemed a warranty or guaranty by Selecta One of any products listed herein