

Kalanchoe blossfeldiana

Kalanchoe
Potted Flowering Plants

Facts about Kalanchoes

- Native to Madagascar
- Flowering pot plant
- Especially valued in Europe for its long lasting postharvest quality
- Also used in hanging baskets, dish gardens, gardens, and as cut flowers

Biology

- Crassulaceae, stomates open and CO₂ is absorbed during the night
- Modern cultivars do not open stomates at night
- Succulent leaves
- Fine, fibrous roots

Cultivars

- In the 1950's there were only orange & red cultivars
- Now there is also pink, yellow and white
- Current cultivars may be hybrids of *K. blossfeldiana* X *K. flammula* and other species

Propagation

- Propagated by cuttings
- Seed and tissue culture for breeding
- 6 to 10 months from germination to flowering
- 14 to 17 weeks for flowering from cuttings
- Specialist propagators maintain vegetative growth with LD lighting from September 15 to April 1

Cuttings

- Typically have one set of mature leaves
- Rooting hormone is not required
- Can be rooted under tents except in summer when mist is needed to keep cool
- Use a minimum of mist
- Medium temperature of 72° F is best
- Rooting occurs in 14 to 21 days

Flowering



Flower buds form when the night is >12.5 hour



The inflorescence is a cyme with >100 individual flowers

Flowering Control and Dormancy

- Short day plant, takes only 2 SD/LN cycles for flower initiation to begin
- Increasing the number of SD/LN cycles increases the number of flowers in the cyme
- Cultivars require from 14 to 28 cycles for maximum flower development

Flowering Control and Dormancy

- Research has shown 21 SD/LN cycles are enough for initiation. Continued development under LD will keep inflorescence more compact.
- Commercially 40 SD are the minimum then plants can finish under natural LD in the summer.

Flowering Control and Dormancy

- If LD are applied during the SD period, each day of LD will result in a 1-day delay in flowering.
- Critical night length is 12.5 hours
- Growers pull black cloth over the crop at 4:30 pm and remove it at 7:30 or 8:00 am

Effects of temperature on flowering

- 70° F is best for flowering
- > 80° F during the first 3 hours of the night will delay flowering
- Pull cloth late to avoid heat build-up

How much LD to give before SD depends on:

- the market date
- the response group
- the season
- the pot size
- the need to pinch

Kalanchoe Culture

- Optimum temperature for growth is 64 to 68° F
- Too much light will cause undesirable leaf anthocyanin accumulation (>5800 fc)
- Evenly moist medium, subirrigation is best
- CO₂ fertilization is beneficial (700-900 ppm)
- pH 5.8 to 6.5
- Space 4-inch pots 5 X 5 inches
- Space 5 or 6-inch pots 9 X 9 or 10 X 10 inches

Pinching and Disbudding

- New cultivars may not need pinching because they are free-branching
- 4-inch production - plants are usually not pinched
- Larger pots are sometimes pinched
- Remove 1 to 2 cm of new growth
- Pinch prior to or up to one week after the start of SD
- Pinching makes it necessary to add 2 -3 weeks of LD for 5 and 6 inch pots

Height Control

- DIF or DROP
- B-nine at 2500 - 5000 ppm
- Use weekly in the summer
- Every 10-15 days in the spring and fall
- Every 14-21 days in the winter
- Other growth regulators are also effective

Challenges

- Chemicals can be phytotoxic but are not generally needed much for insects
- Powdery mildew, *Botrytis*, and *Phytophthora* crown rot
- Too high or low temperature may cause flowering failures
- Edema = rupture of stomatal cells from excessive water pressure due to high humidity, low light and wet medium