

# KALANCHOE BLOSSFELDIANA 'TETRA VULCAN'

## Suggestions for Growing as a Pot Plant

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Several cultivars of *Kalanchoe blossfeldiana* are sold as flowering house plants. A long blooming period, considerable indoor hardiness, the potential to produce a bright floral display during the holiday season, and wide diversity within the species contribute to the popularity of these selections.

The diversity in flower color and growth characteristics is matched by differences in cultural requirements. Thus, while a great deal of information pertaining to *K. blossfeldiana* is available (Schwabe, 1969), it is sometimes difficult to obtain specific information about the requirements for growth and flowering of a particular cultivar within the species.

This paper reports results obtained at San Jose with 'Tetra Vulcan.' The cultivar was chosen because it is frequently grown as a flowering pot plant and because seed is available from commercial sources.

Stock plants were grown from seed (obtained from Geo. Ball Pacific, Inc.) to furnish the cuttings used in this study. Seedlings were transferred from peat pots into 4-inch pots and eventually into gallon cans. The soil mix consisted of soil amended with redwood sawdust, ground peat, and sand. A complete liquid fertilizer was injected into the irrigation water.

The stock plants were grown in a greenhouse with a maximum day temperature of 75° to 80° F and a minimum night temperature of 60° to 65° F; a night temperature of 55° to 60° F is suggested for intensified flower color (Post, 1942). These plants were grown under natural daylength with a 4-hour light break (10 foot-candles from 10:00 p.m. until 2:00 a.m.) to keep them vegetative. The table indicates the planting, transplanting, and harvest dates, and the yield of cuttings from the stock plants. These plants were remarkably uniform in appearance and flowering behavior.

PLANTING DATES AND YIELDS FROM 'TETRA VULCAN' STOCK PLANTS

Operation	Date	Number
Planted	12/7/73	
Transplanted		
4-inch pots	6/13/74	
gallon cans	8/7/74 to 8/21/74	
Cuttings taken <sup>1</sup>	10/9/74	15.5
	1/27/75	14.4
	4/4/75	12.6

<sup>1</sup>Data are averages for eight stock plants. Cuttings included in totals were at least 3 inches long with a stem diameter at the base of at least 0.2 inch. Cuttings had 8 to 14 lateral branches.

Cuttings were rooted in vermiculite under mist using 4 hours of light (10 foot-candles from 10:00 p.m. until 2:00 a.m.) to supplement the natural days. Bottom heat was maintained at 70° F. Under these conditions the cuttings rooted very well in 30 days, after which time they were transplanted into 4-inch pots and placed in the greenhouse.

Most *Kalanchoe blossfeldiana* cultivars are short-day plants requiring a minimum dark period of about 13 hours to initiate flowers. Moreover, the number of flowers a plant forms depends on the total number of short days it is subjected to. Figures 1 and 2 illustrate the influence of varying numbers of short days on 'Tetra Vulcan' flowering. Short days consisted of 8 hours of natural light from 8:00 a.m. until 5:00 p.m. After the requisite number of short days, the plants were transferred to a bench providing 8 hours of natural light supplemented with 4 hours of incandescent light (10 foot-candles from 10:00 p.m. until 2:00 a.m.) Continuous short days resulted in fewer total flowers than 8 weeks of short days followed by a period with interrupted nights. However, little difference in the appearance of plants that received 42, 56, or continuous short days can be detected visually (fig. 2).

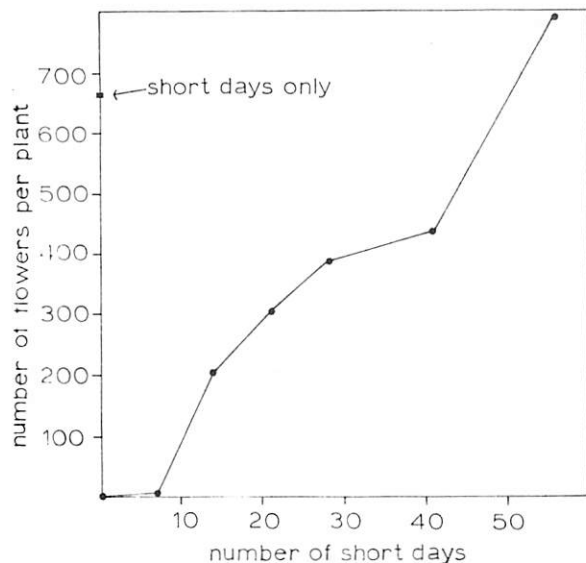


Figure 1. The influence of the number of short days on flower number for 'Tetra Vulcan.' Data are from a representative sample of plants. Points represent 7, 14, 21, 28, 42, and 56 short days.

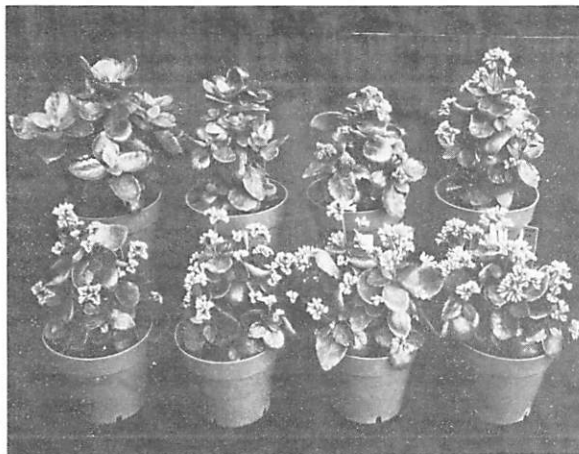


Figure 2. Influence of the number of short days on 'Tetra Vulcan' flowering. Plants are similar to those used in obtaining data shown in figure 1. Plants received the following numbers of short days: top row, left to right, zero, 7, 14, 21; bottom row, left to right, 28, 42, 56, and short days only.

Daylength also influences flower opening (fig. 3). Continuous short days lead to the most rapid opening, and the time interval from the onset of short days until opening of 25 flowers increases with decreasing numbers of short days. This relationship is less apparent after 4 weeks of short days.

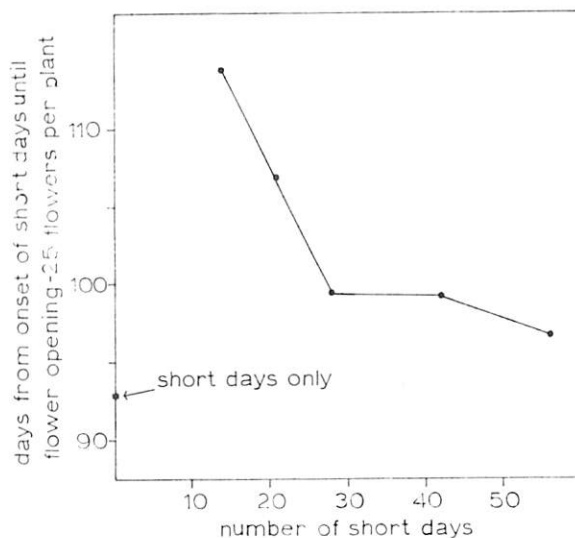


Figure 3. The influence of the number of short days on the rapidity of flower opening in 'Tetra Vulcan.' Each point represents the mean of five replicates. A plant with 25 open flowers would probably be salable. Differences in date of flower opening would be less apparent if expressed as a percentage of total flowers per plant.

*Kalanchoe blossfeldiana* 'Tetra Vulcan' can be grown from 4-inch cuttings to a flowering pot plant in approximately 100 days. The first 42 (or more) days of this growth period should be short days. Increased floral display is obtained with increasing short days, up to at least 8 weeks. Stock plants can produce suitable cuttings as often as every 70 days. It appears likely that a single set of pot plants can be used for obtaining cuttings on a year-round basis.

#### LITERATURE CITED

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