

CUT FLOWER OR POTTED PLANT— *EUPHORBIA FULGENS*

Long, coral-red spikes of *Euphorbia fulgens* (also known as Scarlet Plume and Jacquinaeflora Euphorbia) are used by florists as fillers in various types of floral bouquets. Like its relative, the Christmas Poinsettia, it may be timed for flowering by daylength treatments.

Rooted cuttings are produced from 4–5 inch terminals taken in midsummer. The lower third of the cutting is stripped of its leaves and a rooting compound, such as Hormex no. 3, is applied. Rooting takes 4–6 weeks under intermittent mist.

Cuttings may be grown on benches or pots in a slightly acid, peat-lite soil mix. In benches they may be spaced 4x6 inches unless pinched when the spacing should be 6x8 inches.

If the cuttings are pinched, about 5 or 6 weeks should be allowed for stem growth if cut spikes are desired; then 8 to 10 weeks of short (10 hours) days are provided. The spikes are cut as the terminal flowers open.

If flowers are desired for Halloween, shading should start September 1. For Thanksgiving, start September 15 and October 1 for a Christmas crop. The normal blooming time is January but a delayed pinch in October or November will return a short-stemmed crop in February. The optimum night temperature is about 65° F.

For potted plants, several cuttings are potted together and pinched. Two weeks after pinch, begin short days and spray with 1% B-nine when the shoots are about an inch long. Each pinched cutting produces 3 to 4 breaks. Table 1 shows results of a preliminary experiment in which time of cutback was evaluated. (Photo, page 6).

TABLE 1. Effect of time of cutback on time of flowering of *Euphorbia fulgens* under natural daylengths.

Date of cutback	Peak of flowering	Length of stem to flowers (in.)
9-14	Christmas	29.0
11-5	End of December	12.7
11-16	End of January	8.9
12-2	None	-

Retardants can be used to reduce stem length. Terminal cuttings propagated July 8, 1975, were potted 3 per pot in early September, pinched September 16, and retardants applied October 9. On December 17th the data were taken. As noted in Table 2, the breaks were too long, but a retardation effect was noted for both Arest and Cycocel. B-nine, as a single spray, was not effective.

The stock plants for the preceding batch of cuttings were mature plants, 2 or 3 per one gal. container. Following a cutback to about 4" of wood on July 8, they were placed outside while new breaks developed. On July 22 there were 3 or 4 breaks about an inch long per cane, and the pots were placed on carts to begin short days (9 hours) with 20°C nights in a controlled temperature chamber. The day period was in a greenhouse (30-33°C). On July 29 and again on Au-

TABLE 2. Effect of retardants on growth of *Euphorbia fulgens* under greenhouse conditions, natural daylength (12 to 11.5 hours).

Treatment	Avg. length of break (cm)	Percent of Control
Control	100.8	-
B-nine: 1% spray	92.2	91.4
Cycocel: 1:20 dil.- 200 ml drench	89.0	88.2
Cycocel: 1:40 dil.- 200 ml drench	87.0	86.3
Arest: 1 mg/pot as drench	77.3	76.6
Arest: 2 mg/pot as drench	60.1	59.6

gust 12, the following retardants were applied as sprays: B-nine as 1% a.i., Arest at the rate of 50 ppm, and tri-iodobenzoic acid (TIBA) at 100 ppm.

By the 3rd week of August (4 weeks of SD) some flower buds were evident, and at 7 weeks of SD, the plants were considered in full bloom. The following data were taken September 30: overall pot height, length of 5 typical breaks, number of nodes to the first flower, number of flowering nodes, and length of the flowering portion. The results are presented in Table 3.

Significant retardation was afforded by the double applications of both B-nine and Arest. The number of nodes to the development of the first flower was low, showing an enhancement effect of the retardants. B-nine reduced the number of flowering nodes, but Arest did not. Similarly, the portion of the stem that showed a flower display was less for B-nine than for Arest. The general proportion of the pot plant was better for Arest than for B-nine in this experiment. TIBA had little effect except to delay flower development. It was thought that this chemical might improve branch angle to produce a more open plant, but there was no evidence that this occurred.

The results of all three experiments show that the selection of *Euphorbia fulgens* with which we are working is a difficult one to retard. More compact selections have been developed in Eu-

TABLE 3. Effects of Arest, B-nine and TIBA on growth and flowering of *Euphorbia fulgens*.

Treatment	Height (cm)	Length of break		No. nodes to first flower	No. nodes with flw.	Length of floral portion	
		cm	% of control			cm	% of length of break
Control	72.8	50.4		9.6	14.6	30.8	61.1
TIBA	76.8	61.2	121.4	12.7	15.0	30.3	49.5
B-nine	55.0	36.0	71.4	7.6	11.1	17.5	48.6
Arest	60.6	43.1	85.5	7.2	15.5	25.9	60.1
LSD .05	13.2	10.0		3.6	3.1	7.0	

rope. These types are likely to be more amenable to potted culture in addition to providing a greater color range.

Richard A Criley
Associate Horticulturist