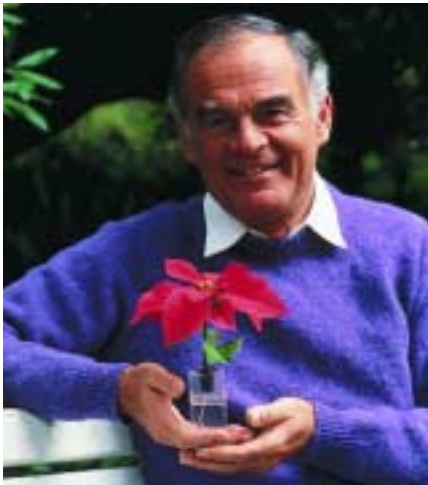


# Everyday Garden Science

## Alien Encounters in the Poinsettia House

by H. Marc Cathey



THE PHONE calls to the Paul Ecke Poinsettia Ranch in Encinitas, California, in the early '60s came from flight controllers, pilots, naval officers, police, and even the owner of an organic food restaurant, but they were all asking the same question: Was the nighttime lighting recently installed in the nursery's plastic houses being used to communicate with aliens? For years the lights in the blocks of plastic houses had stayed on almost all night, but suddenly they were being turned on and off frequently in the middle of the night. From a distance it appeared as if it might be an attempt to send a message into space.

On my next visit to the ranch, owner Paul Ecke Jr. arranged for me to meet with many of the callers to explain that the flashing lights were my idea. It was based on a research paper I published in 1963 that showed that exposing poinsettias to intermittent incandescent lighting—anywhere from three seconds per minute to three minutes per half-hour—for two to four hours in the middle of the night would delay flowering until the plants were ready for sale. Using intermit-

tent lighting allowed poinsettia growers to reduce the cost of lighting up to 90 percent compared with the previous practice of leaving lights on all night.

### DAYLENGTH IS CRITICAL

Flowering in poinsettias is controlled by a critical daylength of 12 hours and 20 minutes. This means that when poinsettias are exposed to days longer than the critical daylength they will continue to produce leaves rather than set flowers. Nights longer than the critical nightlength promote initiation of the flowers—technically known as cyathia—and their brightly colored supporting bracts.

Poinsettias are so sensitive to changes in light that even a flashlight carried through a greenhouse or lights from cars and planes can delay flowering. As little as 0.01-foot candles of light—the equivalent of the light given off by one candle placed 100 feet away—burning all night, can delay flowering. To ensure poinsettias flowered at the desired time—just before



Above: One of the newest poinsettias to come from the Paul Ecke Ranch, 'Enduring Pink' will be available in 2003. Top: Dr. H. Marc Cathey in the late 1980s showing a rooted cutting of an Ecke poinsettia.


the Christmas holiday season—my recommendation to the Ecke Ranch was to cover the greenhouse benches with black shade cloth from 4 p.m. to 8 a.m. daily from September 25 through November 5.

### WORKS AT HOME, TOO

By understanding the light requirements of poinsettias, home gardeners can get a poinsettia to rebloom year after year. Once the holidays are over, continue to water your poinsettia regularly, making sure the soil doesn't dry out between waterings. Feed it with a half-strength balanced liquid fertilizer every other week.

In summer, you can move your poinsettia outdoors where it is in shade through the hottest part of the day; never allow the soil to dry out. As with all plants being moved outdoors, allow time for it to acclimate to brighter light and wind, or it will suffer foliage damage. If your plant begins to grow "leggy" in mid-summer, cut back the stems to six inches to stimulate bushier new growth.

It will take eight to 10 weeks to induce your poinsettia to flower, so starting the 25th of September, place it where it will receive eight hours of direct sunlight daily, then transfer it to a cool draft-free place in complete darkness (a closet in an unheated room is perfect) for 16 hours. Repeat this cycle daily. This manipulation of daylength will stimulate the plant to set flower buds and come into bloom just in time for the holidays.

Getting a poinsettia to rebloom requires patience, but if you have young children, it can be an enjoyable and rewarding way to teach them how plants respond to light and changing daylength. 

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