

# Poinsettia Bud Initiation Dates

study of bud initiation dates enables growers to produce and time better poinsettia flowers

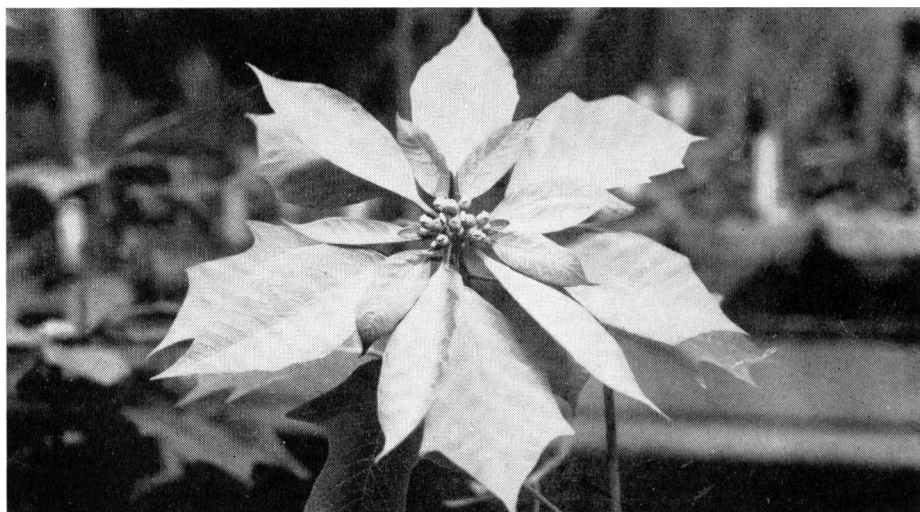
A. M. Kofranek and R. H. Sciaroni

**The poinsettia**—grown especially for the Christmas holiday season—is valued at approximately \$250,000 annually. It is the third ranking pot plant crop in California with over 60% of the plants being grown in the San Francisco Bay Area.

The poinsettia is a short day plant. It sets flower buds when the day-length commences to shorten in the fall of the year. Occasionally, greenhouse operators will have trouble timing the poinsettia for the Christmas season because of dark or cool weather. If the plants have not flowered in time for the Holidays they lose their value to the grower as well as to the retailer.

At the time flower buds are just beginning to initiate, the plants should have the proper light intensity, temperature, fertilizer, and water. If any one of these factors is not in the correct proportion, plants will not set flower buds evenly and most likely will not flower uniformly. Therefore, it is essential to know approximately when flower buds initiate so the poinsettia plants can be given the right growing conditions at the proper time.

During the falls of 1952 and 1953 experiments were conducted in the Los Angeles and San Francisco Bay Areas to determine when poinsettia flower buds initiated. Tips of poinsettia stems from greenhouse grown plants were collected every three days from September 20 to October 30 of each year. The tips were preserved in alcohol and later were sectioned for examination under a microscope. In 1952 two varieties were used in the experiment, namely, Henrietta Ecke and Albert Ecke. The former variety is the double type and is grown almost exclusively in the Los Angeles area and the latter is a single type and is grown in the Bay Area.



An excellent flower of the Albert Ecke single poinsettia.

The average dates of flower bud initiation for the variety Henrietta Ecke were between September 25 and October 4 at Los Angeles and San Francisco. The day-length including civil twilight—when the sun is 6° below the horizon—on October 1 at both locations is 12 hours and 41 minutes. This variety flowers slightly earlier than most of the varieties grown, and it sometimes becomes a problem to time the plant for Christmas sale.

The variety Albert Ecke set flower buds approximately between October 4 and 10 at Los Angeles and between October 7 and 13 at San Francisco. It is not possible to establish one date at which the buds initiate for any one variety because the plants differ in vigor and consequently will initiate flower buds over about a week's time. Also, the possibility of some errors in the sampling must be considered.

Samples of several varieties were col-

lected in different commercial greenhouses in the San Francisco Bay Area in 1953. The results of that survey appear in the accompanying table.

Average bud initiation dates differ with varieties but there are indications that the light intensity that prevails in the greenhouse at this time can also affect the bud set. Probably poinsettias should be grown under conditions of high light intensity during the bud initiation and development period. Some greenhouse operators grow poinsettias with light intensities as low as 500 to 700 foot candles at noon on a sunny day. This is far below what might be considered optimum for the crop. Light intensities in the range of 2,000 to 3,000 foot candles are considered to be more favorable.

Provision of favorable cultural conditions at the time plants are initiating and developing flower buds; the gradual removal of lime-shading on greenhouses in mid-September—in conjunction with proper temperature control, fertilization, and watering—will induce the poinsettia to set buds more uniformly in late September and early October.

*A. M. Kofranek is Assistant Professor of Floriculture and Ornamental Horticulture, University of California, Los Angeles.*

*R. H. Sciaroni is Farm Advisor, San Mateo County, University of California.*

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Average Flower Bud Initiation Dates of Common Poinsettia Varieties at Several Locations for the 1953 Season.

Variety	Location	Average bud initiation date	Relative light intensity in greenhouse
Indianapolis Red	East Palo Alto	Sept. 25–Sept. 30	High
Indianapolis Red	San Francisco	Sept. 30–Oct. 5	Medium
Barbara Ecke Supreme	East Palo Alto	Sept. 30–Oct. 5	High
Barbara Ecke Supreme	Colma	Sept. 30–Oct. 8	Medium
Barbara Ecke Supreme	Colma	Oct. 5–Oct. 12	Low