

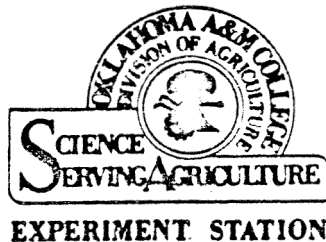
TIMING POINSETTIA PRODUCTION IN OKLAHOMA:

Effects of Controlled Lighting and Time of Propagation
On Bud Initiation and Development
Progress Report, 1955 and 1956

By

R. E. Odom

Department of Horticulture



TIMING POINSETTIA PRODUCTION IN OKLAHOMA:

Effects of Controlled Lighting and Time of Propagation On Bud Initiation and Development

Progress Report, 1955 and 1956

By R. E. ODOM
Department of Horticulture

Poinsettias, being almost exclusively a Christmas pot plant, must be timed for the holiday buying period. Due to variable light conditions just prior to and during the bud initiation period, poinsettias are sometimes past their prime by Christmas.

The Oklahoma Agricultural Experiment Station is currently studying this problem in the hope of finding ways to better control flowering time. The problem is being attacked by tests on the effects of controlled lighting and date of propagation on bud initiation and development. Also, trials are being made on late-propagated cuttings for production of 3-inch pot plants. Results of the tests to date are summarized in this report.

Controlled Lighting Tests

In the 1955 controlled lighting tests, cuttings were made on August 10, 20, and 30. After rooting, the plants were divided into 4 plots and given 0, 7, 14 and 21 days of additional light (long days) beginning September 26. Observations were made on date of visible bud, first bract coloration, date of maturity, size of plant, and size of bract. The principal results were:

1. Earlier propagated plants tended to set buds more readily than later propagated plants.
2. Normal bud initiation occurred between October 1 and 10. Variation in weather conditions (cloudy or sunny days primarily) during the latter part of September may change bud initiation date.
3. Plants required 65 to 75 days to reach maturity from the beginning of short days (lights out).
4. Height of plants increased with additional light.
5. Flower bracts were reduced in size slightly when plants received additional light.

In 1956, cuttings were taken on September 12. After rooting, the plants were divided into four plots and given the following treatments: (a) Control (natural day length). (b) Four hours of additional light until October 5, followed by natural day length. (c) Four hours of additional light until October 5, followed by short days (8 hours). Short days were achieved by shading with a black cloth. (d) Natural light plus variable additional light from 1 to 10 foot-candles until November 1.

Principal results were:

1. Plants in (a), (b) and (c) were in prime condition by December 15.
2. Additional light in excess of approximately two foot-candles caused delay in flowering.

Late Propagation Tests

In 1956, tests were started to determine the value of later than normal propagating. Cuttings were made on October 5, 10, and 15. After rooting, plants were potted in 3-inch pots. They were grown under natural light conditions.

The plants propagated on October 5 developed satisfactorily for Christmas. Those propagated on October 10 and 15 developed flowers but the bracts were not satisfactory.