



By Erik Runkle

# Propagating Poinsettias

Poinsettia propagation can be challenging, especially during the summer. Here are some tips to help ensure successful propagation of nonrooted poinsettia cuttings.

**P**oinsettias can be one of the most challenging plants to propagate, especially when done during the warm temperatures and high light intensities of summer. Successful propagation of cuttings helps ensure a more uniform finish crop, and rapid propagation reduces the potential for plant pathogen, insect and nutritional problems.

This article contains tips on successful propagation of nonrooted poinsettia cuttings, but some guidelines may need to be adjusted based on each specific growing environment. It is essential to propagate cuttings in a sanitary environment that is devoid of pathogens, insects, algae, free-standing water, weeds, and old plants or plant debris that may host such pests.

- Harvest uniform cuttings from stock plants that are approximately 2½ inches in length. If purchasing nonrooted cuttings, unpack and stick cuttings immediately, or place opened boxes overnight in a humid cooler at 50-55° F and stick the following morning. Prevent cuttings from dehydrating.

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- To improve rooting uniformity, dip the lower ¾-inch of the stem into a rooting solution (such as IBA at 2,000 ppm) and avoid any contact with leaves. Consistently stick stems 1 inch into propagation media. Make sure the leaves do not cover stem apices of adjacent cuttings.

- Use a very porous propagation media that does not stay saturated with water. At Michigan State University, we use a mix that contains roughly equal parts of peat and perlite to achieve this.

- Once cuttings are stuck, spray a spreader-sticker (such as CapSil, Aquatrols) on the leaves so that mist covers the leaf surfaces more uniformly.

- During the first two weeks of propagation, shade houses so that the maximum light intensity is 200-300 µmol-m<sup>-2</sup>-s<sup>-1</sup> (1,000-1,500 foot-candles). Maintain temperatures at 78-82° F during the day and 72-75° F at night. Keep air circulation low, keep the humidity high and turn off all horizontal air-flow fans.

- Develop a misting program that mists most frequently from 10 a.m. to 6 p.m. During the first week, provide mist so leaves do not dry during the day between misting events. This requires more frequent misting on sunny days than on cloudy days.

- After day five, little or no mist is needed from 9 p.m. to 8 a.m. However, if nights are cool and the greenhouse is heated during the first week of propagation, lightly mist every 1-2 hours at night. Gradually reduce misting frequency after the first week of propagation.

- To prevent a nutritional deficiency, either include a low amount of fertilizer (such as 50-ppm nitrogen and potassium with micronutrients) in the mist water or water cuttings with fertilizer every 4-5 days beginning on day six with 150- to 200-ppm nitrogen and potassium with micronutrients. Do not use fertilizers containing phosphorus as a foliar application.

- After 10 days in propagation, consider applying a plant growth retardant spray either early in the morning or in the evening. One suggestion is a tank mix of 750-ppm Cycocel (chlormequat chloride) and 750- to 1000-ppm B-Nine (daminozide) or Dazide (daminozide). Temporarily turn off the misting during application and for at least 30 minutes afterwards to improve the efficacy of the chemicals. A second PGR spray may be desired one week later.

- After two weeks in propagation, misting should be minimal (every 30-40 minutes from 8 a.m. to 6 p.m.). Begin to increase light intensity and air movement as roots develop.

- Closely monitor insect populations (especially fungus gnats) and plant pathogens (especially Botrytis and Erwinia), and apply pesticide sprays or drenches as needed for control.

Poinsettia cuttings should be well-rooted in 20-24 days from the date cuttings were stuck. For much more information on the propagation of cuttings, check out the new book "Cutting Propagation" by John Dole and James Gibson.

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