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## Rooting Unrooted Cuttings



The use of a rooting hormone increases rooting uniformity. Apply 1200 - 1500 ppm IBA (indole-3-butyric acid) in powder or liquid form to the bottom 1/8 to 1/4 inch of cuttings before sticking. An alternate method is to spray cuttings after stick with 200 ppm IBA. If spraying IBA, stick cuttings, water in, mist and spray after dark or

in early morning and resume mist after cuttings begin to wilt. Purchase Hortus IBA Water Soluble Salts used to make rooting solutions from your favorite distributor. For referral contact Phytotronics, 13688 Rider Trail North, Earth City, MO 63045. (314) 770.0717 or visit [www.phytotronics.com](http://www.phytotronics.com).

Always stick cuttings into moist root media. Sticking a garden mum cutting into dry media is a sure way to reduce its initial growth and future potential. Tray sizes range from 36-cell to 128-cell. The longer you plan to hold the cutting in the cell tray before planting, the bigger the cell should be. Proper handling in the cell tray is CRITICAL! Allowing plants to become over rooted, dried out, crowded and/or under fertilized, all serve to check plant growth. This will reduce breaking action, and set the stage for severe budding in this very early stage of the crop. Proper care initially is crucial for easy, high-quality finished crops. Unrooted cuttings can also be direct stuck to the finishing container, but that requires much more propagation space.

Misting guidelines: 1 to 3 days after stick – 10 seconds every 5 to 10 minutes; 4 to 7 days after stick, callus is being formed – 10 seconds every 20 minutes; 8 to 15 days after stick, roots are being formed – 10 seconds every 30 minutes. Under ideal conditions, mist can be off 10 days after stick and cuttings can be ready to plant in 14 days.

Mist during daylight hours in all stages and also during the night for the first 3 to 4 days to help keep cuttings turgid for best rooting. Ideal light levels are 3200 to 3800 footcandles. Rooting medium temperature should be 70° to 74°F. Maintain air temperature of 70° to 85°F. Use long-day lighting **year round** to reduce budding during rooting. See Photoperiod Control section.

Unrooted cuttings should be fertilized during propagation. Apply a complete N-P-K fertilizer containing 300 ppm of nitrogen approximately two or three times a week starting on the third day after stick or when callus is starting to form. Cuttings should be planted as soon as possible after rooting or quality can suffer if the roots become rootbound. Fertilize the cuttings when planting. Apply a liquid fertilizer solution at a rate of 300 to 400 ppm immediately after planting.

### Garden Mum Links

- [General Culture](#)
- [Seasonal Crops](#)
- [Seasonal Variety Selector](#)
- [West Coast Variety Selector](#)
- [Stages of Development](#)
- [Discards/Upgrades](#)

### General Culture Links

- [The Field](#)
- [The Schedule](#)
- [On Receipt of Cuttings](#)
- [Rooting Unrooted Cuttings](#)
- [Planting](#)
- [Growing Media](#)
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