

Poinsettia Epinasty: Cause Is Known, Cure Is Not¹

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Drooping, or epinasty, of poinsettia bracts and foliage, particularly on the Hegg cultivars, has become a serious problem. Plants of excellent quality while still in the greenhouse are rejected by the florist or the produce manager when they unsleeve the plants in the shop or mass market outlet. Two or 3 days might be required for the plants to regain a turgid appearance, and watering does not alleviate the problem.

Ethylene has been implicated. Crocker et al. (1) in 1932 showed that leaf epinasty could be caused by ethylene and many workers since then have added to the literature on effects of ethylene on plants. Gilbert and Sink (2) and Sacalis (3) were among the first to specifically mention ethylene as causing the epinasty of poinsettias, though investigators at several other land grant institutions were

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reaching similar conclusions. Gilbert and Sink observed leaf epinasty on poinsettias in the late 1960's when they exposed plants to 10 ppm ethylene for 24 hours in a closed container. Sacalis (3) sleeved 'Annette Hegg Supreme' plants for 24 hours and obtained large increases in ethylene evolution from leaf or bract petioles. Experiments on poinsettia leaf and bract epinasty were begun at N. C. State University in 1977 when Larson and Pharr (unpublished data) compared plant responses when plants were either sleeved or not sleeved, and either shipped or not shipped 100 miles the following day. Epinasty was rated after plants were returned to the campus and sleeves removed. It was obvious that plants which had been sleeved and shipped were most severely affected but some drooping was apparent on plants which had been sleeved but not shipped. Ethylene evolution was suspected so silver nitrate, an ethylene inhibitor, was then applied as a foliar spray to the plants one day prior to sleeving. Epinasty was drastically reduced with silver nitrate treatments but plant injury did occur at high concentrations.