

**Growth Control of *Euphorbia pulcherrima* Willd. ex Klotzsch 'Sonara Jingle' and 'Sonora White' using Ethephon**

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*Poinsettia* (*Euphorbia pulcherrima* Willd. ex Klotzsch) is a small tree native to tropical America. After more than 100 years of breeding and cultivation, the plant is widely used as a traditional Christmas decoration for its striking color bracts and contrasting color foliage. *Euphorbia pulcherrima* 'Sonora White' and 'Sonora Jingle' are new cultivars grown commercially in recent years. To produce better compact potted plants with the lowest financial input, ethephon was applied to these two cultivars. Height increased at a much lower rate after spraying ethephon and all treatments showed significant reduction in height of 'Sonora White' and 'Sonora Jingle'. The maximum reduction of height was 30.8% ('Sonora White') and 33.2% ('Sonora Jingle') with 700 ppm ethephon sprayed three times on 29 Aug., 20 Sept., and 13 Oct. 2005. The reduction rates for other treatments ranged from 11.5% to 23.7%. No significant difference on number of nodes was observed. But the length of internodes was significantly reduced from 18.4% to 42.4%, which resulted in compact plants. Significant linear relationships have been found between the relative height reduction and accumulative ethephon concentrations, which indicated that plant height could be controlled by adjusting total amount of ethephon application. Plant growth was significantly decreased under ethephon treatments. Dry weight reduction of 44.5% and 66.0% was recorded for 'Sonora White' and 'Sonora Jingle', respectively, with three applications of 700 ppm ethephon. Ethephon could effectively control height and reduce production expenses compared with other plant growth retardants. The proportional deduction of overall plant sizes led to better and more compact potted poinsettia. The delay of bloom time and production scheduling of growing poinsettia with ethephon should be in careful consideration.