

# A STEM CANKER OF POINSETTIA CAUSED BY IMPROPER CULTURAL PRACTICES

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Young Annette Hegg Dark Red poinsettia plants sent to the NCSU Plant Disease and Insect Clinic in early October, 1985 had severe cankers, usually one per plant, located at the juncture of the petiole and the stem (Figure 1A,B). No infectious pathogen was found associated with these cankers. It was noted, however, that in each case, cankers were associated with a leaf which had been inadvertently partially buried in the potting media at transplanting. Furthermore, in each case there was a large amount of Osmocote on top of this dead or dying leaf. Soluble salts of the media were measured and found to be much higher than recommended.

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To further substantiate the speculation that the cankers were caused by excessive salts at the canker site, a test was conducted with Annette Hegg Dark Red poinsettias. Twenty plants which had been transplanted about 30 days earlier were received from a commercial grower and placed on the greenhouse bench. Two widely separated, lower leaves of each plant were half-buried in the planting media. A tablespoon of 18-9-13 Osmocote was placed on top of one leaf of each plant. The plants also received Peters 20-20-20 soluble fertilizer weekly. A 15:1 proportioner was used to apply the fertilizer solution (25 g/L = 350 ppm of N). Plants were grown in a warm greenhouse with a minimum night temperature of 21 C. Plants were watered overhead with a sprinkler hose, three times daily.

The leaves which were half-buried began dying a few days after they were buried. After 10 days, the entire leaf was necrotic and lesions were evident on 12 of the stems at the juncture of the stem and the petiole similar to those of Figure 1A). After 20 days, some of the cankers had increased in severity like those in Figure 1B. The leaves which had been partially buried but without the addition of Osmocote on them did not become necrotic nor were there any stem cankers formed in association with them. Some of the Osmocote-treated leaves abscised quickly, within 5 days after treatment, and in these cases, cankers did not develop on contiguous stems.

In summary, it appears that poinsettia leaf petioles can act like a wick for the translocation of salts to the stem where injury may occur and cankers may result. Such an injury provides an ideal infection court for the grey mold fungus, *Botrytis cinerea*, which may cause disastrous damage to bracts and leaves during moist weather.

To prevent these fertilizer related cankers, growers should carefully transplant to avoid partially burying leaves. Also, Osmocote or other slow-release fertilizers should be applied to planting media only and kept off plant stems and leaves.

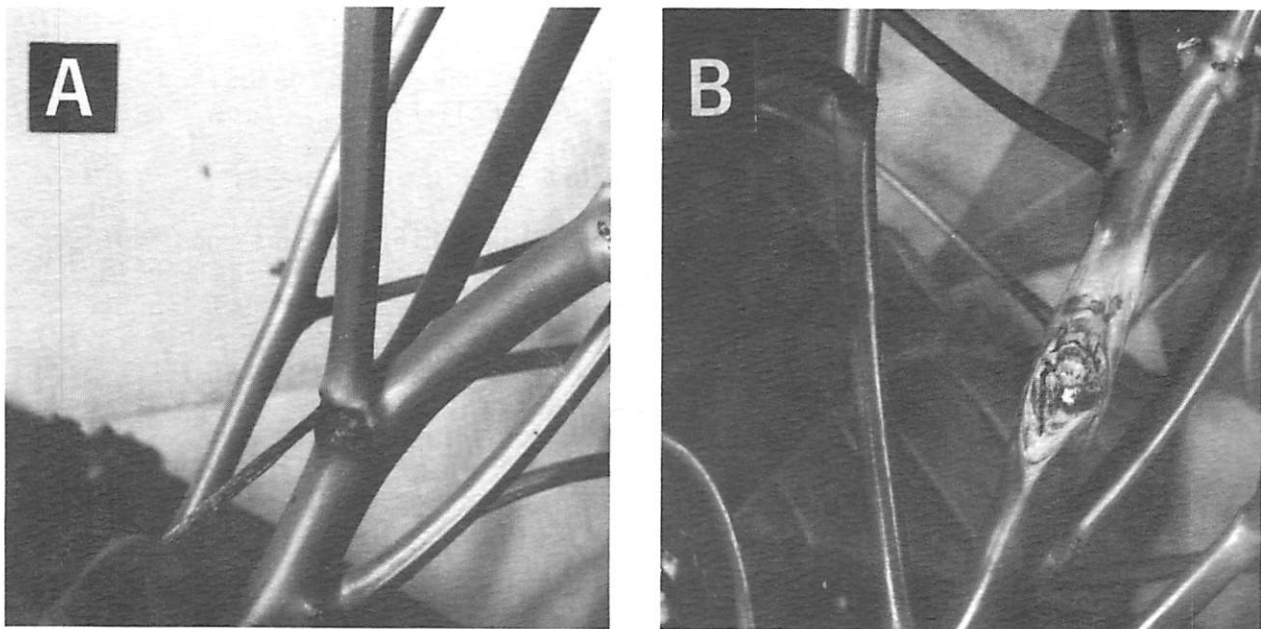


Figure 1. Canker on stems of 'Annette Hegg Dark Red' poinsettias at the juncture of the petiole and the stem resulting from the placement of Osmocote on partially buried leaves: A) 10 days after Osmocote treatment and B) 20 days after Osmocote treatment.