

NOTE ON HORMONE SPRAYS FOR CARNATION ROOTING

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Several CFGA bulletins have dealt with carnation rooting (206-208, 331), however, none have discussed problems that may occur when cuttings are treated and stored prior to sticking. As the result of some problems this past spring, a short experiment was undertaken to determine effects of storage after hormone application and prior to sticking. A liquid hormone consisting of 0.5% IBA plus 0.5% NAA in 89% methanol and diluted at rates of 1:5, 1:10 and 1:20 was sprayed on carnation cuttings. One group at each of the above concentrations was stuck immediately in the propagation bed. Other groups were stuck after being stored at 35°F for intervals of 1 day, 2 days, 3 and 5 days. After rooting, the cuttings were planted in a raised soil bed.

As noted in Bulletin 331, concentrated hormone tended to decrease rooting as compared to the 1:10 and 1:20 dilutions in this study. The effect of higher concentrations became more pronounced as storage lengthened prior to sticking (Fig. 1). The greatest effect of rooting hormone, however, was on subsequent plant growth in the production bench. The 1:10 and 1:20 dilutions resulted in little or no growth inhibition when cuttings were stuck immediately after spraying. But, all dilutions tended to reduce growth the longer the cuttings were stored after spraying (Figures 2 and 3). Dilutions of 1:5 and 1:10 severely stunted growth, resulting in typical "growth regulator" symptoms of

shortened internodes, failure of the main growing point to elongate rapidly, and an appearance of increased branching.

Unless absolutely necessary, the smallest concentration of rooting hormone that will provide acceptable rooting should

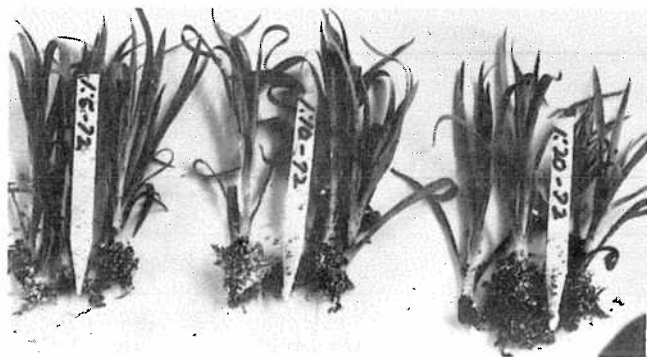


Fig. 1: Effect of rooting hormone concentration on carnation rooting after storage for 3 days. From left-to-right: dilutions of 1:5, 1:10 and 1:20. The effect of high hormone concentration was more pronounced the longer the storage period between hormone application and sticking.



Fig. 2: Effect of rooting hormone concentration and cutting storage for one day on subsequent carnation growth in the production bed. From left-to-right: dilutions of 1:20, 1:10 and 1:5.

be employed, and cuttings should be stuck immediately after hormone application. Storage for one day at weakest concentrations may not visibly effect subsequent growth, but two days — such as may occur over a weekend — will definitely result in an undesirable response.

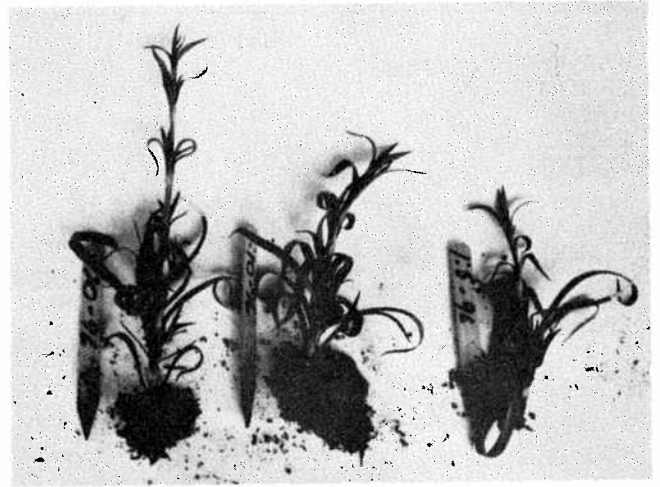


Fig. 3: Effect of rooting hormone concentration and storage of cuttings for five days prior to sticking on subsequent growth of carnations in the production bed. From left-to-right: dilutions of 1:20, 1:10 and 1:5. Compare the 1:20 dilution treatment when stored for 5 days with the same concentration but stored for one day shown in Fig. 2.

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