

Title Manipulation of post harvest quality and display life in cut phlox flower heads: effect of sucrose, prohexadione-Ca and gibberellic acid

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### Abstract

*Phlox paniculata* 'John Fanick', a superior selection for Texas landscapes having attractive and long-lasting dense terminal clusters of flowers in shades of red, pink, and white with a dark red eye, has potential as a specialty cut flower crop. The key components affecting quality and post harvest display life of cut flower heads are flower abscission, opening of additional flowers in vase, and maintenance and development of color in flowers during vase life. Addition of gibberellic acid (GA) or prohexadione-Ca (PROHEX) to the holding solution induced abscission of open flowers and inhibited development of flower pigmentation in newly opened flowers. In controls the petal color of flowers turned bluish, but addition of sucrose (SUC) restored the normal pink-white color. In SUC+GA, the flower size increased considerably and the corolla tube elongated, but the flowers exhibited a distinctive light pink color. In SUC+PROHEX, however, the flowers became very large, but the petals remained light bluish or white. In SUC+PROHEX+GA, most of the flowers did not develop color and exhibited perfect white color, although they attained large size and exhibited extended display life. These results point out that the post harvest quality, display life and longevity of cut phlox flowers can be regulated by management of plant growth regulators and sucrose in the vase solution.