

EFFECT OF NITRIC OXIDE GENERATING COMPOUNDS ON FLOWER SENESCENCE IN CUT RACEMES OF PINK FLOWERED *LUPINUS HAVARDII* WATS.

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Nitric oxide (NO_x) is viewed as a diffusible multifunctional plant signal molecule. It has been shown to extend the postharvest life of a range of flowers possibly by downregulating ethylene production. In this study, we have evaluated the effect of two nitric oxide (NO_x) generating compounds (sodium nitroprusside, SNP; N-tert-butyl- α -phenylnitron, PBN), alone and in combination with sucrose, on postharvest flower senescence of cut racemes of four advanced breeding lines (Pink Bulk, PB; Pink Light, PL; Pink Dark, PD; Pink Coral, PC) of pink flowered Big Bend bluebonnet (*Lupinus havardii* Wats.). The promotion/retardation of flower senescence depended on the concentration used and the genotype. Incorporation of sucrose in the vase solution considerably reduced the senescence of flowers, promoted growth of the inflorescence axis and opening of additional flowers in PB, PL and PD. However, in PC sucrose (>1 %) induced the wilting of the tip of the banner spot petal which eventually hastened flower senescence and flower abscission. NO_x donors and sucrose, when used in combination, generally exhibited a lesser degree of flower senescence as compared to those growing in solutions containing NO_x donors alone. These results indicate that the beneficial or detrimental effects of NO_x may depend on concentration, sensitivity of genotypes and presence or absence of sucrose in the vase solution.