

ETHYLENE SENSITIVITY OF CUT RACEMES OF ADVANCED BREEDING LINES OF PINK FLOWERED BLUEBONNET

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Cut racemes of Big Bend bluebonnet (*Lupinus havardii* Wats.) hold considerable promise as a new specialty cut flower crop. Over the years, as a result of our breeding and selection efforts, we have developed several lines of improved germplasm with blue, white and pink flower colors. We now have genotypes which show considerably reduced or no flower shattering. This study was conducted to evaluate the relative ethylene sensitivity of four newly developed lines (Pink Bulk, PB; Pink Light, PL; Pink Dark, PD; Pink Coral, PC) which produce different shades of pink flowers. Freshly harvested racemes were put into vases containing either water or the desired concentration of 2-chloroethylphosphonic acid (CEPA) and the abscission of flowers was recorded regularly. The results indicate that the breeding lines differ widely with respect to their ethylene sensitivity. Based on the intensity of flower abscission in the presence of CEPA, the breeding line PC was found to be the most sensitive to the presence of ethylene in the vase solution, whereas the line PL appeared to be the least sensitive. A pretreatment of racemes with silverthiosulphate (STS), a known ethylene action inhibitor, prevented flower abscission even in the presence of CEPA. Earlier we reported that the sensitivity of cut racemes of *Lupinus* spp. vary widely among species. The results of this study point out that even the selections within a species may have varied sensitivity to ethylene. Recurrent selection and breeding has been quite successful in obtaining low shattering genotypes with improved vase life and longevity in Big Bend bluebonnet.