

ESTABLISHMENT AND SEED PRODUCTION OF NATIVE FORBS USED IN RESTORATION

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There is great interest in incorporating native wildflowers into seed mixtures for conservation plantings and disturbed land revegetation projects. Despite this interest, and unlike the marketing of non-native species by the commercial floriculture industry, there is a lack of species-specific information in many aspects of native forb seed production including seeding techniques, seedling emergence, plant growth and development, seed production characteristics, and stand management. A critical component in the production of native wildflowers is securing a successful establishment of these species as weed competition for water, sunlight, and nutrients threaten their successful establishment and growth. More specifically, there is a lack of herbicides labeled for weed control in wildflower seed production. To fill this knowledge gap, we examined the impact of pre-emergence and post-emergence herbicides on 5 wildflower species *Dalea candida* (Prairie Coneflower), *Gaillardia aristata* (Blanket flower), *Penstemon eriantherus* (Fuzzy tounge penstemon), *Phacelia hastata* (Silverleaf phacelia), and *Ratibida columnifera* (Slender white prairie clover) under greenhouse conditions. Preliminary results show that trifluralin and DCPA were the least injurious pre-emergence herbicides. Post emergence screening included linuron, clopyralid, fluazifop p-butyl, imazapic, halosulfuron, clethodim, and pendimethalin. Each herbicide was applied at four rates, labeled, 2/3, 1/3, and no herbicide. Results of this study will be used at a large-scale field experiment assessing the impact of herbicide application on weed control and wildflower injury. These studies will provide growers and land managers valuable information that will improve their ability to commercially grow native wildflowers while also clarifying the impact of weeds on the competitive ability and growth of native wildflowers.

Key words: seed production, native wildflowers, herbicide, competition