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BREAKING GERMINATION DORMANCY OF Texas native perennial herbaceous legumes

| Dean A Dittus and James P Muir

ABSTRACT

Seed scarification requirements to improve initial germination in perennial herbaceous native legumes may vary among species. Mechanical abrasion (0, 5, 10, and 20 s) and hot water (0, 5, 10, and 15 min) treatments were tested as means for improving seed germination in the Fabaceae species prairie acacia (*Acacia angustissima* (Mill.) Kuntze var. *hirta* (Nutt.) B.L. Rob.), panicled tick-clover (*Desmodium paniculatum* (L.) DC.), and tall bush-clover (*Lespedeza stuevei* Nutt.), which have potential for commercial native seed mixes in the southern Great Plains. All durations of abrasion and one minute in hot water increased germination rates of mechanically harvested prairie acacia. Hand-harvested tall bush-clover germination responded positively to one second of abrasion but was sensitive to seed damage at longer durations. Nonscarified (control) hand-harvested panicled tick-clover seed germination was 94% and did not respond positively to scarification. Results indicate that the need and best method for seed scarification vary among native perennial herbaceous legume species.

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KEY WORDS

seed scarification, hardseed, Fabaceae, prairie acacia, panicled tick-clover, tall bush-clover, *Acacia angustissima* var. *hirta*, *Desmodium paniculatum*, *Lespedeza stuevei*

NOMENCLATURE

USDA NRCS (2009)