



Assessing Competitiveness of Alkali Sacaton Genotypes Exposed to Invasive Weeds

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Introduced invasive species often have long-lasting effects on native plant communities. Past exposure of native alkali sacaton (*Sporobolus airoides* Torr.) populations to Russian knapweed (*Acroptilon repens* L.) invasion may impose selective pressures on those populations. We examine alkali sacaton genotypes obtained from within invaded patches of Russian knapweed (IN) and from outside invaded patches (OUT) for germination traits and competitiveness. We developed a Biological Screening Process (BSP) to assess and categorize the competitiveness of alkali sacaton genotypes using results from past competition experiments conducted with Russian knapweed, and Canada thistle (*Cirsium arvense* L. Scop.) competitors. We examined seed germination and primary root growth of alkali sacaton seedlings to examine the effects of Russian knapweed associations. Using MANOVA (Trend Analysis) and the multivariate procedure Cluster Analysis, we found that past exposure to Russian knapweed has significant impacts on seed germination but had little effect on radicle extension. The notion that maternal plants can transfer competitiveness in the form of germination traits to subsequent generations may play a key role in future revegetation efforts of areas subject to weed invasions.

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