

## **RESISTANCE TO INVASIVE CANADA THISTLE (*Cirsium arvense*) DURING PRAIRIE ESTABLISHMENT**

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*Abstract:* During establishment prairies are especially vulnerable to invasion by exotic plants such as Canada thistle. Poor establishment leaves sites open to invasive plants while a healthy prairie is able to compete and resist invasion. Once established, Canada thistle spreads quickly replacing native plants and diminishing diversity. The objective of this study was to evaluate methods of establishing prairie for the potential to resist invasion by Canada thistle. Treatments consisted of planting seasons, seed mixes and post-planting management practices. Planting took place in early spring, summer and fall. Seed mixes consisted of warm season forbs and grasses only, cool season only and a mixture of both warm and cool season plants. Management included mowing and herbicides imazapic and clopyralid. A field study began in 2004 at the Southwest Research and Outreach Center near Lamberton, MN and remains in progress. Fall planting appears to be the most conducive to establishment of Canada thistle seedlings, while spring planting is the least conducive. The cool season only planting was dominated by native grasses and more resistant to invasive Canada thistle than the warm season only and the mixture of cool and warm season plants. Warm season plantings had a higher percentage of bare ground compared to other seed mixes and the lack of competition from cool season plants allowed the thistle to become established. Plots treated with clopyralid had more native grass cover and fewer Canada thistle plants than other treatments. The effect, however, was temporary and more than one application is needed to eliminate Canada thistle from a site. Effects of imazapic were not consistent and mowing did not reduce the Canada thistle population.