

**INTEGRATED MANAGEMENT OF THE INVASIVE WEED, CUT-LEAVED
TEASEL (*Dipsacus laciniatus* L) ALONG A MISSOURI HIGHWAYS**

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ABSTRACT

Cut-leaved leaved teasel is an invasive, exotic, and noxious weed in Missouri. Biennial plant infest roadsides and undisturbed areas. Studies regarding seed biology, detection, and control measures were conducted to improve teasel management along a four mile section of Highway interstate 70 in central Missouri. Seed characteristic such as viability after flowering, emergence pattern and persistence were conducted. Hyperspectral images were collected using airplane along I-70 to assess teasel infestation levels. Chemical control together with grass establishment was utilized to reduce severity of infestations.

Cut-leaved teasel produced germinable seed 12 days after flowering. Seed emerged primarily in April and October with 31%. After three years under field conditions, seed viability was only 6.1%. Cut-leaved teasel can be detected among other species in a highway environment with greater 80% accuracy. Application of the herbicide aminopyralid in both May and October, combined with sowing tall fescue, Canada wildrye and buffalograss resulted in reducing infestations levels of cut-leaved teasel by greater 90%. The integration of biology, detection and control techniques lead to conduct the optimum suitable cut-leaved management plan.