

BIOLOGY, ECOLOGY AND MANAGEMENT OF INVASIVE WEEDS IN MISSOURI. Kevin W. Bradley and Reid J. Smeda, University of Missouri, Columbia, MO.

Currently, some of the most common invasive species encountered in Missouri pastures, hay fields, roadsides, and other non-crop environments are common teasel (*Dipsacus fullonum* L.), cut-leaf teasel (*Dipsacus laciniatus* L.), johnsongrass [*Sorghum halepense* (L.) Pers.], musk thistle (*Carduus nutans* L.), sericea lespedeza [*Lespedeza cuneata* (Dumont) G. Don], spotted knapweed (*Centaurea biebersteinii* DC.) and bush-type blackberry species like Himalaya blackberry (*Rubus armeniacus* Focke). Of these species, only johnsongrass, musk thistle, and common and cut-leaf teasel are officially listed as noxious weeds in Missouri; the list also includes Canada thistle, field bindweed, kudzu, marijuana, multiflora rose, purple loosestrife, and scotch thistle. Although some of these species have been present in Missouri for decades, cut-leaf teasel, sericea lespedeza, and spotted knapweed appear to have spread the most in recent years and have been the focus of several field experiments in Missouri.

Research conducted on the management of Sericea lespedeza in Missouri has revealed that herbicides containing metsulfuron or triclopyr will provide the most effective control of this species, while aminopyralid or picloram are some of the more effective herbicides for the control of spotted knapweed. Research conducted on the biology of cut-leaf teasel has also demonstrated that peak emergence of seedlings is April and October and that seedling growth begins in early March and continues through October. Each biennial plant produces from 4,000 to 17,000 seeds, and seed viability remains at 10 to 15% up to 3 years after dispersal. Mowing is a common technique intended for suppression of cut-leaf teasel growth or improving aesthetics along roadsides. However, because mature cut-leaf teasel seed are produced in as few as 10 days from the initiation of flowering, mowing serves as a means of spreading infestations. There are a number of herbicides effective for control of cut-leaf teasel including ALS inhibitors such as metsulfuron-methyl and imazapyr, glyphosate, and growth regulators such as dicamba, 2,4-D, triclopyr, picloram, and clopyralid. This presentation will provide a brief overview of characteristics that typify successful invasive weeds, control strategies for various invasive weeds in Missouri, and the outlook for re-establishing desirable native species. The use of remote sensing as a means of locating populations and assessing control techniques will also be discussed.