

EMERGENCE AND CONTROL OF CUT-LEAF TEASEL WITH POSTEMERGENCE HERBICIDES. Diego J. Bentivegna and Reid J. Smeda. Graduate Research Assistant and Associate Professor, Department of Agronomy, University of Missouri, Columbia, MO 65211.

The genus *Dipsacus* includes the weedy species commonly known as teasel. The prominent species in the US are cut-leaf (*Dipsacus laciniatus*) and common teasel (*Dipsacus fullonum*). These species were introduced into North America from Europe, and are proliferating along roadsides. Teasel is a biennial; reproduction occurs only by seed. Biology studies were established to determine the periodicity of teasel emergence; herbicide efficacy studies were also established to identify optimum management practices. Teasel emergence was monitored monthly after fall 2003 establishment of 2000 seeds in 1.5 by 1.5 m plots. The majority (+98%) of teasel emerged in April or October, with approximately 110 to 115 seedlings per m²; minimal emergence occurred the rest of the year. To evaluate herbicide efficacy, two sites were selected along highway corridors in central Missouri. Fall applied treatments were made in 3 by 6 m plots, and included glyphosate at 2.52 kg ai/ha, 2,4-D amine at 1.68 kg ai/ha and dicamba + diflufenzopyr at 0.29 kg ai/ha. After initial growth commenced the following spring, these same treatments were applied in addition to 2,4-D + triclopyr at 2.52 kg ai/ha, 2,4-D + picloram at 2.13 kg ai/ha, 2,4-D + clopyralid at 2.01 kg ai/ha, metsulfuron-methyl at 0.008 kg ai/ha, sulfosulfuron at 0.11 kg ai/ha, paraquat at 0.94 kg ai/ha, imazapyr at 0.84 kg ai/ha and sulfometuron-methyl at 0.11 kg ai/ha. An untreated control was also included. The experiments were established as a randomized complete block design with four replications. Visual evaluation of herbicide applications in the fall were made 15, 30 and 60 days after application. For spring applications, visual evaluations were made for newly established and 1 year rosette plants. To assess residual activity, two 0.3 by 0.3 m quadrants were established for the treatments of 2,4 D + picloram, dicamba + diflufenzopyr, metsulfuron-methyl, paraquat, and imazapyr, with seedling emergence counted monthly. For fall application, plant injure increased from 67% in the fall to more than 90% the following spring for glyphosate, 2,4-D amine, and dicamba + diflufenzopyr. In the spring, non-residual postemergence herbicides such as glyphosate or paraquat had better performance overall 15 days after treatment compared to the other herbicide treatments. Sulfosulfuron did not control teasel. In general, dicamba + diflufenzopyr, metsulfuron-methyl and imazapyr had better and more consistent control 60 days after of spring treatment (>85% biomass reduction). Control of plants at 60 days after treatment application was greater than 85% for all treatments except paraquat, sulfometuron-methyl and sulfosulfuron. Imazapyr and 2,4-D + picloram provided the best control (>86%) of seedling teasel 60 days following herbicide application; glyphosate and sulfosulfuron resulted in the poorest overall control (< 28%). There were no differences in teasel emergence among plots treated with 2,4 D + picloram, dicamba + diflufenzopyr, metsulfuron-methyl, paraquat, and imazapyr.