

HERBICIDE EFFECTS ON SERICEA LESPEDEZA SEED VIABILITY AND CONTROL. Walter H. Fick and Rodney A. Kunard, Associate Professor and Assistant Scientist, Department of Agronomy, Kansas State University, Manhattan, KS 66506.

*Sericea lespedeza* is an introduced, perennial legume that is invading range and pasture land in the central Great Plains. Previous research on control has focused on the use of herbicides applied during rapid vegetative growth or during the bloom stage. The objectives of the current study were to determine if effective control can be obtained with herbicides applied during seed development and if certain herbicides would prevent viable seed production. The study was conducted at a site near Blaine, KS in 2001. Four herbicide treatments and a check were established in a factorial arrangement with four blocks on September 21, September 28, October 5, and October 12. Seed development ranged from early pod set on September 21 to the soft dough stage on October 12. The herbicides applied were triclopyr at 0.84 kg/ha, metsulfuron at 0.058 kg/ha, fluroxypyr at 0.32 kg/ha, and fluroxypyr + triclopyr at 0.14 + 0.42 kg/ha. Herbicides were applied in 187 L/ha spray volumes using a CO<sub>2</sub>-powered backpack sprayer equipped with a four nozzle boom. Individual plots were about 2 by 8 m in size. Five *sericea lespedeza* plants per replication were harvested in early November. Seeds were threshed, counted, and a 14-day germination test conducted on scarified and unscarified seed in a growth chamber at 28°C. Treatments were evaluated for percent control on July 17, 2002. Seed production increased from 41 to 202 seeds/plant as averaged across treatments over time. Percent germination of scarified seed was reduced by all herbicide treatments if applied before the milk to soft dough stage (October 5). Germination was < 3% for the triclopyr, metsulfuron, and fluroxypyr treatments applied on September 21 or September 28. Percent control declined across dates. Averaged across dates, all treatments provided > 70% control of *sericea lespedeza*. Metsulfuron at 0.058 kg/ha and triclopyr at 0.84 kg/ha were the most effective providing > 90% control.