SALTCEDAR CONTROL ON THE CIMARRON NATIONAL GRASSLAND. Walter H. Fick and Wayne A. Geyer, Associate Professor, Department of Agronomy and Professor, Department of Horticulture, Forestry, and Recreation Resources, Kansas State University, Manhattan, KS 66506.

Saltcedar (*Tamarix ramosissima* Ledeb.) is an invasive shrub or tree found along stream banks and waterways throughout the western United States. In Kansas, saltcedar infests more than 20,000 ha and is particularly a problem along the Cimarron and Arkansas watersheds. Research was conducted in 2004 and 2005 on the Cimarron National Grassland located near Elkhart, KS. Scattered stands of multi-stemmed saltcedar were cut near ground level during the dormant season using a 10-cm rotary saw attached on the front end of a tractor. On April 13, 2004 and May 6, 2005, 100 cut-stumps were selected for herbicide treatment. Ten treatments were applied each year in a randomized block design with 10 replications. Herbicides were applied using hand-held garden sprayers. Treatments applied in 2004 were rated for percent control 3 and 6 months after treatment (MAT), and for mortality 15 MAT. Treatments applied in 2005 were rated for percent control 3 and 5 MAT with a preliminary mortality rating taken 5 MAT. Treatments in 2004 included an untreated check, triclopyr at 10, 24, and 48 g L^{-1} diesel, glyphosate at 18 g L^{-1} water, imazapyr at 23 g L^{-1} water, triclopyr + 2,4-D at 5 + 10 g L^{-1} diesel, a ready to use formulation of triclopyr at 90 g L^{-1}, glyphosate + 2,4-D at 18 + 23 g L^{-1} water, and glyphosate + imazapyr at 18 + 12 g L^{-1} water. In 2005 treatments included an untreated check, triclopyr at 48 and 120 g L^{-1} diesel, glyphosate at 90 g L^{-1} water, imazapyr at 23 g L^{-1} water, triclopyr + 2,4-D at 5 + 10 g L^{-1} diesel, a ready to use formulation of triclopyr at 90 g L^{-1}, glyphosate + 2,4-D at 36 + 46 g L^{-1} water, glyphosate + imazapyr at 36 + 24 g L^{-1} water, and imazapyr at 23 g L^{-1} diesel. All untreated trees resprouted, with resprouts up to 1.8 m tall. In 2004, all herbicides provided greater than 90% control 3 MAT except those cut-stump treatments containing glyphosate. Additional resprouting occurred between 3 and 6 MAT. All treatments containing triclopyr or imazapyr provided greater than 80% control 6 MAT. The only treatment providing 100% mortality 15 MAT was the ready to use formulation of triclopyr applied at 90 g L^{-1}. In 2005, all herbicide treatments provided at least 75% control of saltcedar 3 MAT. Apparent mortality at the end of the growing season was at least 80% for triclopyr at 48 and 120 g L^{-1} diesel, the ready to use formulation of triclopyr at 90 g L^{-1}, and imazapyr at 23 g L^{-1} in water or diesel.

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