CHEMICAL CONTROL OF CANADA THISTLE ON RANGELAND AND PASTURES. Vanelle F. Carrithers, Field Research Biologist, Dow AgroSciences, Mulino, OR 97042, Robert N. Klein, Professor, North Central Research and Extension Center, University of Nebraska, North Platte, NE 69101, Stevan Z. Knezevic, Assistant Professor, University of Nebraska, Concord, NE 68728, Robert A. Masters*, Field Research Biologist, Dow AgroSciences, Lincoln, NE 68506, Todd C. Geselius, Field Research Biologist, Dow AgroSciences, Fargo, ND 58104, Jonathan D. Green, Professor, University of Kentucky, Lexington, KY 40546, and Patrick L. Burch, Field Research Biologist, Dow AgroSciences, Christiansburg, VI 24073.

Canada thistle is a widespread perennial invasive and noxious weed in the United States and Canada. This invasive plant is found throughout the northern U.S., from northern California to Maine and south to Virginia. In much of this region the species commonly infests cropland, rangeland, pastures, roadsides, and rights-of-way. On rangeland and pastures, infestations often reach densities that reduce livestock carrying capacity. This reduction results, in part, from direct interference of this plant with desirable forages. In addition, livestock avoid infested areas because the spines, which protrude from leaf margins, deter grazing. The invasiveness of this plant arises from its capacity to produce abundant plumed seeds that are readily dispersed by wind and to reproduce vegetatively from buds arising from an extensive root system. Research was conducted at several locations to determine the response of Canada thistle to picloram, clopyralid + triclopyr, fluroxypyr + triclopyr, fluroxypyr + picloram, 2,4-D, metsulfuron, and dicamba. Canada thistle control usually exceeded 80% 60 days after spring 2001 applications of spray solutions containing 420 g ae/ha picloram, 368 g ae/ha clopyralid + 1103 g ae/ha triclopyr, or 231 g ae/ha picloram + 231 g ae/ha fluroxypyr. In contrast, Canada thistle control was usually less than 60% 60 days after application of 2,4-D at 2128 g ae/ha, metsulfuron at 12.6 g ai/ha, or dicamba at 1680 g ae/ha. Picloram- and clopyralid-containing treatments provided season-long Canada thistle control superior to that of other treatments.