

AMINOPYRALID EFFECTS ON CANADA THISTLE (*CIRSIUM ARVENSE*) AND NATIVE PLANT SPECIES IN THEODORE ROOSEVELT NATIONAL PARK, NORTH DAKOTA. Luke W. Samuel and Rodney G. Lym, Plant Sciences Department, North Dakota State University, Fargo, ND 58105.

Aminopyralid controls Canada thistle but resultant effects on plant community composition are generally unknown. A study was initiated to evaluate the effect of aminopyralid efficacy on Canada thistle and native plant species in Theodore Roosevelt National Park, ND. Thirty native and Canada thistle-infested areas were selected and aminopyralid at 120 g ae/ha was applied in September 2004 to half of each 9- by 6-m plot. Canada thistle density and foliar cover of each plant species in all sub-plots were determined prior to and 10 and 22 mo after treatment (MAT). Canada thistle density 10 MAT averaged 2 stems/m² compared to 31 stems/m² in the control and 22 MAT averaged 16 stems/m² compared to 42 stems/m² in the control. Plant community composition differed between native and Canada thistle-infested sites prior to treatment with greater richness and diversity in Canada thistle-infested plots than in native plots. Native plant richness and diversity were reduced 10 and 22 mo after treatment by aminopyralid. For example, native plant richness 10 mo after treatment averaged 12 species in non-treated compared to less than 9 species in treated sub-plots. Plant species richness and diversity were similar following aminopyralid treatment between all Canada thistle-infested sub-plots. The relative abundance (evenness) of plant species within the Canada thistle-infested sites 10 and 22 MAT increased when treated with aminopyralid compared to non-treated plots. Removal of Canada thistle resulted in a more even distribution of the remaining plant species within the plot. Plant species evenness in the native community 10 or 22 MAT was not affected by aminopyralid. Native plant evenness likely did not change because the dominant plant species within the native plots were not susceptible to aminopyralid. In summary, aminopyralid reduced Canada thistle density and did not affect plant species composition in Canada thistle-infested areas, but native plant species richness and diversity were reduced.