

Diversifying Crested Wheatgrass Seedings in Northern Nevada

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Because it can be reliably established to compete against cheatgrass invasion, crested wheatgrass is often seeded in lower elevation burns of northern Nevada. Once these sites have been secured against weedy monocultures, the opportunity for diversifying with native species may exist. The study area, formerly dominated by Wyoming big sagebrush, was seeded to crested wheatgrass during the 1970s. Objectives of this research were to determine the effect of various control methods on crested wheatgrass, and the effect of crested wheatgrass reduction on establishment of seeded species. Treatments for crested wheatgrass reduction included herbicide (glyphosate) applications of spring and spring + fall spray, 3-way disking, and combined spring spray + 3-way disking. A mixture of site-adapted native species was seeded during October 2008 with a Truax rangeland drill. First year analysis showed the following (at $p < 0.05$): (1) herbicide treatments were significantly more effective than disking in reducing crested wheatgrass cover and density; (2) there were no significant differences in effectiveness among the 3 herbicide treatments in reducing crested wheatgrass cover and density; (3) disking significantly increased crested wheatgrass density. Seeded species that have established to date include basin wildrye, bluebunch wheatgrass, bottlebrush squirreltail, Indian ricegrass, needle-and-thread grass, western yarrow, Lewis flax, Munro globemallow, and Wyoming big sagebrush. Seeded native grasses germinated on plots both with and without crested wheatgrass control, but were much taller and more robust in plots where crested wheatgrass was suppressed. Additional plots were established during 2010 to test for differences between years, with additional herbicide treatments compared.