

Seeding Wyoming big sagebrush in the northern Great Basin

Robert D. Cox¹, Mike Pellant² and Nancy Shaw³

¹Texas Tech University, Lubbock, TX; ²USDI Bureau of Land Management, Boise, ID; and ³USDA Forest Service, Rocky Mountain Research Station, Boise, ID

Erratic establishment of Wyoming big sagebrush (*Artemisia tridentata* ssp. *wyomingensis*) from post-fire seedings has stymied efforts to restore communities of this landscape dominant. We examined the effect of drill type, seeding method, and seeding rate on emergence and establishment of Wyoming big sagebrush at five recently burned sites in the northern Great Basin. Treatments included: 1) Broadcasting Wyoming big sagebrush and other small seeded species and drill seeding larger-seeded grasses and forbs in alternate rows with a standard rangeland drill, 2) Using a minimum-till drill to broadcast and press the small-seeded species and drill the larger-seeded species in alternate rows, 3) Simulating aerial seedings by seeding larger-seeded species in alternate rows with each drill and leaving intervening rows open, then hand-broadcasting the small-seeded species over the entire plot immediately, or 4) in winter over snow. Wyoming big sagebrush seeding rates ranged from 9 to 500 PLS m⁻². Success rates ranged from 0 to 4 shrubs m⁻² in the first year post-seeding. At some sites, high densities of cheatgrass (*Bromus tectorum*) appeared to interfere with establishment of emerged seedlings, which had emerged in greater density in areas seeded with the minimum-till drill. Although there is some indication that establishment of small seeded species is greater when seeded through the minimum-till drill, results are not consistent. Nevertheless, proper attention to soils, competitive species, and precipitation zones can improve seeding success of this important landscape dominant.