Title: Comparing seed mixes and seeding techniques for restoring plant communities in Wyoming's high desert
Source: Society for Range Management's 64th Annual Meeting
Date & location: Feb. 8, 2011 in Billings, MT

There is a need to restore native plant communities critical to wildlife habitat on Wyoming's high elevation sagebrush steppe disturbed by development. This demonstration addressed two important factors influencing plant community establishment: species selection and seed placement. Species selection was examined using two seed mixtures--one with a high proportion of shrub (36% grasses, 13% forbs, and 53% shrubs) and the other with a high proportion of grass (72% grasses, 23% forbs, and 5% shrubs). Seed placement was examined by seeding method--drilled or broadcast. Treatments were evaluated by counting plants per species within 20, randomly placed, 0.89-m^2 hoops, in the 0.2-ha broadcast and in the 0.41-ha drill plots. After five years, composition in the shrub mix was 72% grass and 28% shrubs, with less than 1% forbs where seeds were broadcast; and 64% grass and 36% shrubs, with less than 1% forbs where seeds were drilled. Community composition of the grass mix was 91% grass, 2% forbs, and 7% shrubs where seeds were broadcast; and 95% grass, 2% forbs, and 3% shrubs where seeds were drilled. Where the shrub mix was broadcast, the small-seeded *Poa secunda* was the predominant grass, while large-seeded grasses were most common where the grass mix was drilled. The demonstration planting indicates there is great need to improve availability of adapted forb species. Our observations suggest plant community development can be enhanced by increasing seed density and percentage composition of desired species and using seeding methods that optimize seed placement to facilitate germination and establishment.