Title: Establishment and persistence of native grass in Wyoming's high desert
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There is a critical need to identify native grass species that establish well and persist on disturbed sites on sagebrush-steppe communities important to wildlife such as mule deer, antelope and sage-grouse. Our objectives were to compare the establishment and persistence of grass accessions and cultivars native to the Rocky Mountain region. In October 2005, 32 entries of 15 native grass species were drill-seeded in single-species plots in a randomized complete block design with four replications on a reclaimed well-pad site near Pinedale, Wyoming. Plant density and height were recorded in each of the 5 years post-seeding, whereas biomass sampling began in 2008. Analysis of variance indicated plant counts depended on seeded entries. In 2010, plant densities of 'Sodar' streambank wheatgrass (46 plants/m^2) were greater than all other grasses. Densities of the other top performers were 'Critana' thickspike wheatgrass (31 plants/m^2), P-24 bluebunch wheatgrass and L-46 basin wildrye (26 plants/m^2), 'Rodan' western wheatgrass and Washoe basin wildrye (22 plants/m^2), 'Trailhead' basin wildrye (18 plants/m^2), and Salina wildrye and 'Continental' basin wildrye (17 plants/m^2). In general, rhizomatous grass densities increased over time while densities of bunchgrasses remained constant or decreased. Mean plant height was species-specific, with basin wildrye exceeding 84 cm, while Sandberg bluegrass, bottlebrush squirreltail, and Indian ricegrass were 13 cm. The demonstration planting indicates there is great need to improve availability of adapted forb species. Results suggest currently selected plant materials provide good options to restore disturbance, improve soil stability, contribute to ecosystem function, and enhance wildlife habitat.