

## CHALLENGES OF RECONSTRUCTING NATIVE PRAIRIES

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Renovating old stands of introduced species to stands dominated by native species is a challenge. Remaining viable seed banks coupled with the aggressive attributes of both noxious weeds and introduced grasses has limited the success of these plantings. Increased interest in restoring introduced grass plantings back to native species resulted in a five-year cooperative project with the North Dakota State Game and Fish Department and the USDA-NRCS Plant Materials Center. The material presented will discuss the challenges of establishing diverse mixes of native grasses, forbs and legumes by no tilling into chemically killed sod of smooth brome grass (*Bromus inermis*), Kentucky bluegrass (*Poa pratensis*) and crested wheatgrass, (*Agropyron desertorum*). The following are some of the study results: 1) burning the site to remove litter and duff layer is essential prior to seeding; 2) chemical control of existing cool-season introduced grasses is necessary; 3) depending on introduced species and stand diversity, several applications of chemical will be necessary to provide the desired control; 4) warm-season species were favored by spring seeding and cool-season species were favored by fall dormant seeding; 5) no-till seeding into killed standing residue provided a very desirable environment for seedling growth and development; 6) dead Kentucky bluegrass sod provided an undesirable seedbed for no-till seeding compared to killer smooth brome grass sod; 7) native prairie species can be successfully established in one growing season by burning, chemical application, and no-till seeding into existing cover of cool-season introduced species; and 8) stand management is essential after establishment to maintain native species diversity and prevent introduced cool-season invasion.