EVALUATION OF MAMMOTH WILDRYE, DUNE WILDRYE, AND PRAIRIE SANDREED FOR STABILIZATION OF BLOWOUTS IN NORTH DAKOTA

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Revegetation of blowout areas in North Dakota has been largely ignored because of their small acreage and the difficulty of establishing permanent vegetation on these problem sites. Droughty weather conditions and livestock impact can rapidly cause small areas to become larger. Mammoth wildrye (Leymus racemosus), dune wildrye (Leymus arenarius), and prairie sandreed (Calamovilfa longifolia) were planted in 1993 and have been evaluated from 1993-95 for revegetation potential on four blowout sites in North Dakota. The areas vary from thin sands, sands, to sandy range sites. The plots were generally barren of vegetation except for scattered annual weeds, and were fenced to exclude livestock at planting time. Treatments included: 1) planting vegetative material with polyacrylamide, 2) planting vegetative material with no polyacrylamide, 3) broadcast seeding with straw mulch and polyacrylamide, 4)ÿbroadcast seeding with straw mulch and no polyacrylamide. The planted vegetative material performed best for all species compared to the broadcasted seed. Mammoth wildrye (vegetative) had the greatest average height (25 inches) and survival rate (82 percent) by the fall of 1994. Vegetatively planted material had an average maximum tiller spread of 21 inches for mammoth wildrye, 20 inches for dune wildrye, and 10 inches for prairie sandreed. Seedling density was also greatest for mammoth wildrye and lowest for prairie sandreed in 1994. Mammoth wildrye continued to show the greatest survival (vegetative) and seedling density by the summer of 1995. Polyacrylamide treatment had no apparent effect on any vegetative or seeded plot. Fencing alone enhanced natural revegetation at each site. Fencing, adapted plant material, and mulching are key factors for successfully revegetating and stabilizing blowout sites.