

DORMANT SEEDING OF SELECTED NATIVE WARM-SEASON GRASSES.

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Dormant seeding of warm-season grasses is not a recommended practice in the Northern Great Plains. Yet there are occasions when dormant seeding may be necessary. The purpose of this study is to evaluate the success of various warm-season native grasses seeded during the dormant season. Replicated seeding trials of Bison big bluestem, Tomahawk Indiangrass, Dacotah switchgrass, and Killdeer sideoats grama were planted at the USDA, SCS Plant Materials Center at Bismarck, ND on November 18, 1990 and October 30, 1992. A spring seeding of the same species was planted on May 5, 1993. All entries are cultivars that originated in North Dakota. Evaluation included seedling counts, estimated plant density, vigor, and plant development (leaf stage).

Data collected from the 1990 and 1992 dormant plantings indicate an excellent stand of Dacotah switchgrass was established compared to poor stands for the remaining three species. The mean density estimates, respectively, for 1990 and 1992 for each species are: Dacotah switchgrass 51.0, 38.3; Bison big bluestem 8.5, 2.6; Killdeer sideoats grama 4.0, 10.7; and Tomahawk Indiangrass 3.5, 5.3. Analysis of density estimates for both the 1990 and the 1992 dormant plantings indicate that Dacotah switchgrass was significantly higher ($P=.01$) than the other three species. Dacotah switchgrass also had significantly higher ($P=.05$) seedling counts than the other three species for the spring seeding, but all four species had excellent stands. In contrast, even though Dacotah switchgrass had significantly higher ($P=.05$) seedling counts than the other three species for the dormant seeding, poor stands and low counts were recorded for the other three species.

Germination on the 1992 dormant seeded plots occurred in early April 1993. Initial germination was excellent for all entries. Several spring frosts did occur after germination was initiated and was injurious to the young seedlings. Dacotah switchgrass exhibited more tolerance to these spring frosts compared to the other three species. The tolerance of Dacotah switchgrass to spring frosts suggests that dormant seeding of this species may be an appropriate planting time in the Northern Great Plains.

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