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Native Grass Establishment Demonstration Plots

Greg Brenneman
Iowa State University, gregb@iastate.edu

Kevin Van Dee
Iowa State University

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Abstract
Current CRP programs have emphasized the use of warm-season native grasses. In the early 1990s a variety trial of different species and varieties of native grasses was established by the NRCS staff at the Southeast Research and Demonstration Farm. These plots have been very useful for landowners to see the growth characteristics of the different varieties. However, landowners have had many questions about what a seeding should look like during the establishment years. The project goal was to compare different seeding times and weed control methods in the establishment of native grasses.

Disciplines
Agricultural Science | Agriculture

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Greg Brenneman, ag engineering specialist
ISU Extension
Kevin Van Dee, farm superintendent

Introduction

Current CRP programs have emphasized the use of warm-season native grasses. In the early 1990s a variety trial of different species and varieties of native grasses was established by the NRCS staff at the Southeast Research and Demonstration Farm. These plots have been very useful for landowners to see the growth characteristics of the different varieties. However, landowners have had many questions about what a seeding should look like during the establishment years. The project goal was to compare different seeding times and weed control methods in the establishment of native grasses.

Materials and Methods

In the fall of 2001, a plot area previously in corn was seeded to native grasses over the following three years. One-third of the plot area was seeded each year. The remainder of the plot area was planted to soybeans until it was seeded to native grasses in 2002, 2003, or 2004.

Each year's seeding was further subdivided into a late-fall dormant seeding (late November to early December), an early-spring frost seeding (late February to early March), and a late-spring seeding (mid-May to early June). A diverse mix of native grasses and forbs (wildflowers) was used in each seeding. The primary grasses used were big bluestem, indian grass, switchgrass, little bluestem, side- oats grama, and Canada wild rye. All of the seeding was done by broadcasting the seed on the surface. If disking needed to be done in the late spring for weed control, those plots were packed with a roller after seeding. During the establishment year, each of the planting times was split, and 4.0 oz/acre of Plateau herbicide was applied to one-half of each plot for control of annual weeds. Also during the establishment year, the plots were mowed once or twice for weed control.

Results and Discussion

While each seeding time resulted in the establishment of native grasses, there were noticeable differences in the density and composition of the stands. The fall dormant seedings and early-spring frost seedings usually resulted in a more complete stand in the first year. The fall dormant seedings also had greater variety and density of forbs observed in the first and second year. With the late-spring seeding, it was often the second or third year before a full stand of native grasses was established.

The primary weed challenges were heavy stands of giant foxtail along with field pennycress, common lamb's quarter, and marestail. The use of Plateau provided good to excellent control of giant foxtail into mid- or late summer, depending on the year. This control usually allowed full establishment of the native grasses with seed head production in the first year. Where Plateau was used, it was often noted that there was higher density of native grasses and lower density of forbs in the second or third year. A heavy stand of marestail was often seen in the second growing season, but very little marestail after that.

These plots were used as a part of eight different public and interagency field days with a total attendance of over 200. The plots will be maintained for observation for the next several years.