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Eight steps aid successful native grass establishment

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Native grass

plantings are of increased interest to producers. The pros relative to introduced perennial pasture grasses are noteworthy – little

need for fertilizer after establishment, drought hardiness if properly grazed, and increased wildlife habitat, to list a few. However, after the cons are considered – low germination and seedling survival rate, low seedling vigor, low tolerance to competition, and general unpredictability of stand success (not to mention lower stocking rates) – few producers decide to attempt a native grass planting. Successful establishment can occur, and the common denominator between most successful plantings is the attention to detail throughout the establishment process. The following are steps to guide producers who want to establish a new stand of native grass.

1. Identify the species of native grass plants found on good condition native range sites of your soil type. The quickest means to find this information is on the Web Soil Survey (websoilsurvey.sc.egov.usda.gov). This entails locating your property or area of interest (AOI) on the interactive map and finding the plant



community similar to your ecological site description or the desired plant community. The listed native grasses include both high and lower successional grasses. Most of these grasses should be included in the seed mixture.

2. Analyze the soils to be seeded well ahead of the proposed planting date. If soils are deficient in phosphorus or potassium, or have a low pH, these nutrients or lime need to be supplied in adequate quantities and incorporated into the soils prior to planting. In addition, if organic

matter is lower than 2 percent, plant green manure crops or cover crops (usually annuals) for a couple of years and incorporate residues into the soil at peak production or after grazing. Organic matter increases the water-holding capacity of the soils and contributes to the soil ecology.

3. Eliminate competition prior to planting. Native grass seedlings are not tolerant of competition. Where possible, all existing forages need to be eliminated through tillage and/or appropriate herbicides. Difficult-▶

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to-control species such as bermudagrass, johnsongrass, crabgrass and ryegrass may require several tillage operations or herbicide treatments during the growing season to reduce seedling competition.

4. Prepare a smooth, firm, weed- and debris-free seedbed the fall before native grass planting. After the weed species and existing forages have been eliminated, and soil nutrients and organic matter have been added and incorporated into the soil, it is time to prepare the seedbed. Work soil to a depth of 3 to 5 inches until it is free of clods and plant debris is well incorporated. The use of a drag or harrow behind the last tillage improves the smoothness and uniformity of the field. Follow with a culti-packer or other packing implement to firm the seedbed. Complete all operations prior to December.
5. Purchase a seed mixture similar to the plants listed in the Web Soil Survey (or the county soil survey book) for the ecological site of the targeted planting area. Include the mid-successional species in equal proportion to the high successional

species. The mid-successional species will often emerge earlier and in greater frequency during the first growing season. Plant the mixture at a seeding rate of about 10 pounds per acre or more of pure live seed (PLS). It is recommended that you identify a regional seed source at least six months ahead of planting. Seek a range professional to assist in the seed mixture formulation.

6. Plant native grasses during the winter season at the proper rate and depth using a calibrated seeder designed to handle native grass seeds. Air-flow seeders, Brillion seeders and other seeders with agitators running through a seed box designed to handle "fluffy" seeds work well. Calibrate the drill to ensure a proper seeding rate. Seed should be planted in most cases at a depth of about 1/2 inch. Planting during the winter allows for the native grass seed to be naturally cold-stratified, which is a necessary process for germination of most native grasses.
7. Control weed competition throughout the growing season. Most native grasses will not germi-

nate until soil temperatures reach 60 degrees Fahrenheit. Herbaceous weeds emerge soon thereafter. If the grassy weeds have been eliminated, herbaceous weeds will be the main competition. Manage weeds by mowing or treatment with an appropriate herbicide when weeds reach about a 4-inch height or before they begin to shade emerging grasses. Seek a range professional to assist in herbicide selection and treatment.

8. Avoid grazing new stands during the establishment year or lightly (top) graze only after plants are well established. A full growing season deferment allows new plants to develop a good root system. Always leave adequate residual height during grazing events even in subsequent years, and never graze more than half the leaf tissue at any grazing event during the growing seasons.

There are no guarantees when attempting native grass plantings, but following each of these eight steps will provide the best opportunity for success. Leaving out even one of these steps could ensure stand failure. ■