

# Native Grass Establishment

LONNIE MENGARELLI, AGRICULTURE & NATURAL RESOURCES AGENT

I have had several questions about planting farm ground back to native grass. The area used to be all native and many have been plowed up for row crop and then put back to cool season grasses such as fescue and smooth brome. The reason for this is first of all native seed was hard to come by and second fescue and brome are much easier to establish. For those who are wanting to go back to native grass here is what KSRE recommends.

Establishment is the most important phase to ensure system longevity when planning the long-term use of a seeded native grass stand. Native species are slow to establish and do not compete well with other plants, such as undesired weeds and forage mixes. For this reason, native grass pastures can take up to four years to become fully established. Use known cultivars because they have been selected for better establishment and forage production characteristics. Species and cultivar selection, site preparation, seed quality, seed source, and seeding date must be considered to ensure the successful establishment of a native grass pasture. Planning is the key to achieving a successful stand. Before seeding, it is important to assess resources, including soil type, fertility, current and past cropping uses, and how these resources affect the establishment of new native pastures. Producers must understand the potential challenges (existing weed problems, seed bank, and potential cropland herbicide carry-over), necessary changes in the farming operation, available equipment, seed sources, the intended use of the seeded area, costs and returns anticipated, and suitability for wildlife habitat. This information contributes to the preparation for seeding.

The first step in knowing the potential yield for haying or grazing is understanding more about the soil. Soil texture can be identified by a lab test or by searching NRCS soil survey maps available through the NRCS Web Soil Survey ([websoilsurvey.nrcs.usda.gov](http://websoilsurvey.nrcs.usda.gov)). Additionally, soil chemical properties need to be determined. Previous cropping history, particularly herbicide use, is necessary to prevent seedling damage from herbicide carryover. Seedling damage can result from long-residual herbicides, particularly those used for grass control. Short-residual herbicides are less likely to injure seedlings. Herbicides with rotation restrictions for corn or grain sorghum are an indication of potential seedling damage. Check labels for plant-back intervals and expected suppression. The species and cultivar selected should be adapted to the field's soil. If several different soils occur in a field, splitting the field should be considered, and changes in seedbed preparation may be required.

A firm, weed-free seedbed is recommended. Seedbed preparation depends on climate, soils, and intended use. In most cases, clean-tilled seedbeds are preferred to establish pastures, especially where precipitation is greater than 32 inches on average annually. The seedbed is tilled as needed to destroy all weeds and leave a firm, friable seedbed. Weed control is a significant requirement for a successful stand. Using a cultipacker or similar equipment before and/or after seeding can greatly improve the stand of grass, especially during seasons of low rainfall. This approach stores soil moisture but requires precipitation after seeding to ensure a successful stand. As with all seeds, proper seeding depth is important to obtain adequate establishment of native grasses. Most seeds cannot emerge from deeper than 1/2 to 1 inch. Grass drills will handle the fluffy seed of most native grass species and ensure accurate placement, delivering the seed at a uniform rate.

Companies selling certified seed are required by law to inform buyers of seed quality. This allows buyers to determine the amount of seed to plant. Native grass seed quality is measured on a pure-live-seed (PLS) basis, which is calculated based on germination and purity. Seeding rates vary by soil, precipitation, and intended use of the seeding. For help selecting seeding rates and mixtures, consult the county Natural Resource Conservation Service Office, local K-State Research and Extension office, wildlife agencies, or seed dealers.

Recommended planting dates are based on research, but they may be adjusted for your region based on local knowledge. The optimum seeding date for warm-season grasses is about 2 weeks before the average last frost

# Native Grass Establishment

LONNIE MENGARELLI, AGRICULTURE & NATURAL RESOURCES AGENT

date and at least 6 weeks before hot, dry summer weather. If that is not possible, 1 month before to 3 weeks after the average last frost date may be an acceptable period for seeding. This allows the seedling 6 to 8 weeks to establish the permanent root system before hot, dry summer weather. We are in Zone 1 which translates to February 15<sup>th</sup> through May 1<sup>st</sup> time frame with the optimal dates of March 25<sup>th</sup> to April 10<sup>th</sup> in “typical” year.

Fertilizer maybe required when establishing a new stand of native grasses due to our higher precipitation in our area. Lime is suggested if the pH is below 6.0. Taking soil samples contributes to successful seeding. Consult NRCS or local K-State Research and Extension personnel for local needs. If soil test recommend fertilizer and it is applied it may stimulate weed competition during the establishment phase.

Although native grass is more difficult to establish, in the long run its value outweighs the input cost. The area used to be all native grasses and that is the standard in which soil health is based on, and we as stewards of the land should consider looking at reestablishing natives grass when possible.

*Lonnie Mengarelli is a K-State Research and Extension Agriculture agent assigned to Southwind District. He may be reached at [mengo57@ksu.edu](mailto:mengo57@ksu.edu) or 620-223-3720*

Tina Sullivan, Northeast Area Agronomist  
[tsullivan@ksu.edu](mailto:tsullivan@ksu.edu)

Bruno Pedreira, former Southeast Area Agronomist

Walt Fick, Professor Emeritus