

Establishing native grass forages

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The severe drought of 2012 has left many pastures in poor shape and needing to be re-established.

Rather than reseeding with the same forage species eliminated by the drought, native grasses such as big bluestem, indiagrass and switchgrass should be considered as alternatives.

All of these species have very good drought-tolerance and may place you in a better position to support grazing in future droughts, especially on poorer sites.

Even if you are not reseeding in response to drought-damaged pastures but are planting new ground, replacing annuals or simply ready to renovate, the time to prepare for this spring's planting has come.

Many producers are not familiar with natives and how to best establish them. Therefore, key steps that can help ensure successful establishment are provided below.

- *Attention to detail*

First, it is important to recognize that successful establishment of native grasses will require attention to detail.

Put another way: You will need to put good, basic agronomic principles into practice when you plant native grasses.

Advanced competition control, quality seedbeds, proper planting depths and good follow-up weed control are all important and should be attended to carefully. Let's consider each of these in turn.

- *Advanced competition control*

This is important in establishing any perennial forage crop, and natives are no exception. Remaining cool-season perennials such as tall fescue or orchardgrass can be controlled during early spring, but spraying is much more effective during the fall.

Warm-season perennials such as dallisgrass and bermudagrass also are better treated the summer (August and September) before planting is planned but can also be controlled in the spring.

However, you will need to wait until those species are actively growing and be prepared to do a follow-up spraying about four or six weeks later.

This will delay planting until early to mid-June. As long as you have good soil moisture, there is no problem with planting that late.

- *Seedbed preparation*

Weed control can also be accomplished through conventional tillage where erosion is not a threat. However, for native grasses, it is critical to prepare a very fine, clean and firm seedbed.

Be prepared to make several trips across the field with a disc or other tillage equipment, and if needed, a cultipacker.

Coarse-textured, loose seedbeds or those with a good deal of thatch or other debris will lead to poor establishment success.

Even with no-till practices, it is important to minimize thatch. Thick thatch will interfere with seed placement, and even with good seed placement, can smother new seedlings.

Thatch should be removed by grazing, haying or prescribed burning well ahead of your planned spraying date.

- *Planting depth*

Switchgrass, indiangrass and the bluestems (big and little both can be part of good forage blends) all require shallow seeding depths.

At over 300,000 seed per pound, switchgrass is a very small seed and should be planted at only about 1/8-inch to 1/4-inch deep.

Although indiangrass and bluestems can be planted slightly deeper, shallow seeding is also critical for these species.

When following the drill, you should be able to see some seed on the surface within the rows – perhaps 10 to 15 percent of the length of a row.

Countless native grass plantings have failed simply because of excessive planting depths. Eastern gamagrass has much larger seed and is, therefore, more forgiving of variation in seeding depth. Ideally, eastern gamagrass should be planted at about 3/4-inch to one inch.

- *Follow-up weed control*

Once you have planted, it is important to address subsequent weed problems in a timely manner. Native grasses are typically slow to germinate and will not emerge for two to four weeks after adequate rainfall.

During this time, even with good advanced weed control, competition can become established and prevent your stand from being successful.

Use of a pre-emergence material (one to 1.5 oz. active ingredient of imazapic) on indiangrass and the bluestems should follow drilling as soon as possible.

This chemical will do an excellent job providing a weed-free window of several weeks, during which native grasses can germinate and grow.

There are no labeled pre-emergence products that can be used effectively with switchgrass or eastern gamagrass, which is why advanced weed control is so critical.

Many broadleaf formulations may be used on native grass seedlings once they are well established (i.e. more than five-leaf stage or preferably after tillering has occurred).

- *Planting dates*

Native grasses should be planted at about the same time as corn or shortly thereafter. With adequate soil moisture and favorable weather patterns, natives can be seeded well into June.

There will be fewer growing days and may be increased risk of drought with these later seeding dates. However, many excellent stands have been obtained with planting dates in late June and even early July where moisture is not limiting.

Dormant-season plantings (February and March) have been successful with native grasses but require precise timing for weed control during April.

All residual winter annuals must be sprayed before soil temperatures reach 65 degrees F, or native grass seedlings will not emerge due to the heavy weed canopy or be killed following emergence by later spray dates.

Table 1

Recommended seeding rates for native warm-season grasses

Species	Pure Stand		Blends (drilled)			
	Drilled	Sowed	Two-way	Two-way	Two-way	Three-way
Big bluestem	9	12	6	8	-	6
Little bluestem	7	10	-	1	1	1
Indiangrass	7	10	3	-	6	3
Switchgrass	6	8	nr	nr	nr	nr
Eastern gamagrass	12	nr1	nr	nr	nr	nr

For planting rates, please refer to **Table 1**.

• *Other issues*

There are two other issues you should consider when planting native grasses.

First, these species have low fertility requirements.

With their small seedlings, there is little value for nitrogen during the seedling year.

In fact, high N levels will usually help the weeds more than the grass and are a detriment to successful establishment.

Secondly, some native grasses (switchgrass and eastern gamagrass) can have high dormancy rates. You need to consider this when buying seed.

Year-old seed, stratified seed or dormant-season planting are all strategies for dealing with this issue. Just be sure to check with your seed dealer when you are ordering seed to confirm dormancy rates for the lot of seed in question to avoid any problems.

• *What now?*

If you have paid attention to detail and followed the guidelines above, your chance of having a successful stand will be high.

Of course, regardless of how good your agronomic practices are, adequate moisture following planting is essential to success.

Do not be overly concerned about the size of the seedlings at the end of the first growing season. With early seeding dates, good weed control and ample moisture, native grass seedlings can reach heights of five to eight feet and produce seedheads the first year.

At the other end of the spectrum, as long as seedlings are large enough to survive winter (over 10 inches), you should have a good stand.

What is typically a bigger concern is plant population. With native grasses, a plant per square foot will provide an excellent forage stand.

Densities of one plant per two square feet will still be fine. If stand density drops to one plant per four square feet, you should consider overseeding the stand the following spring.

During the second growing season, native grasses continue to establish their deep (up to 10 foot) root systems.

Use of second-year stands for forage production is fine but should be limited. A single hay cutting in early summer or

about 60 or so grazing days should be fine as long as adequate time for resting is provided during late summer.

By following these guidelines, you should be able to provide yourself with a highly drought-tolerant stand of perennial summer forage that can last for many years with proper management.

And whenever that next summer drought comes around, that will be a good thing to have. **FG**