



## Establishing Native Warm-season Grasses for Wildlife

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Native warm-season grass is a collective name for a group of native grasses that occurred throughout Kentucky and other states with prairies, barrens, or oak or pine savannas. These grasses include big bluestem, little bluestem, broomsedge bluestem, indiangrass, switchgrass, eastern gamagrass, prairie dropseed, and side-oats grama. Native warm-season grasses have developed a poor or "bad" reputation because they are expensive to establish, they take several years to become fully established, and swards cannot be "abused" or overgrazed like tall fescue and still produce acceptable livestock forage. Yet, establishing these grasses can provide certain advantages: habitat for wildlife and butterflies, high quality hay for livestock, no fertilization requirements for establishment, and aesthetic value.

During the past several years information from research studies, new herbicides, and improved no-till seeders have made it possible to establish a stand in as little as one growing season. The purpose of this fact sheet is to provide you with current research information on the best method for establishing these grasses.

### Planning for Warm-season Grasses

Proper planning prior to seeding will determine the success or failure of seeding these grasses. You should consider site conditions: Is it flat, rolling, or steep topography? Is it a dry or wet site? What kind of soil is present? See the information on plant species to determine which species can be used on various sites. Once you have determined which grasses and/or forbs you are going to use, contact nurseries to get information about price, seed quality, and availability. Not all seed mixes are created equal. More than 50 nurseries currently sell native warm-season grass, and you often get what you pay for with these grasses as well as with wildflower/forb seed. The best mixes will not contain annuals or invasive flowers like dame's rocket, cornflower, or Queen Anne's lace. It is better to purchase your wildflower or forb and legume

seeds separately and create your own mix. Although this may be more costly, it will ensure that you get the species mixture you want. If you get legumes, be sure that the inoculant is included with the seeds.

Part of your planning should include contacting the Kentucky Department of Fish and Wildlife Resources (502-564-4858) or your KDFWR district biologist to obtain information about the use and availability of drills and to be placed on their waiting list to borrow a drill. This is a free service provided by the KDFWR. They can also provide you information about the availability of other no-till drills. This is also a good time to take soil samples (CES publication *AGR-16, Taking Soil Test Samples*) and provide these to your local county Extension office for soil fertility recommendations. You are now ready to prepare for the planting season.

Two factors are critical in the success of any native warm season grass seeding:

- placing the seed at the proper depth and
- controlling competing vegetation during establishment.

### Preplanting Preparation of the Field

The best method for establishing the grasses is to burn the field in March. If that isn't possible, you can hay (or heavily graze) the fescue grass by mid-March. The purpose of removing standing fescue and the litter is to allow good fescue regrowth and to obtain a good kill with the herbicide. Apply the following tank mixture to kill fescue sod: 12 oz Imazapeth (Plateau®)/acre, 1 quart methylated soybean oil/acre, and 1 quart 28-0-0 liquid fertilizer/acre) in mid-April when the fescue is actively growing and has reached a height of 6 to 8 inches. You can add 1 quart glyphosate (Roundup™)/acre to the tank mixture (and reduce the Imazapeth to 4 to 8 oz/acre) if you desire a

quicker fescue kill or if you are killing other cool-season grasses or legumes like Kentucky bluegrass, timothy, or orchard grass. Imazapeth will also control weeds like crabgrass, johnsongrass, foxtail grasses, and others that compete with the native warm-season grasses during the establishment phase.

### Seeding Method

The best seeding method is to use a no-till drill specifically designed for seeding the fluffy seeds characteristic of these grasses. However, switchgrass can be planted with a conventional grass drill, and eastern gamagrass should be seeded with a corn planter. Placing the seed at the proper seeding depth is critical to success of the seeding. Proper seeding depth is 1/4 inch, and it is better to have seed on the top of the ground than buried too deep in the furrow.

### Planting Time

May is the preferred time to seed native warm-season grasses when soil temperatures reach 55°F. Best seed germination occurs when soil temperatures are at 65°F. You can seed NWSG up until July 15 if sufficient rainfall is available for the

establishing plants. Research has shown that fall plantings generally fail in Kentucky, and they are not recommended.

### Seeding Rates

The total recommended seeding rate for wildlife in Pure Live Seeds (PLS)/acre is 6 lbs PLS/acre. If you are adding forbs to the mixture, the recommended mixture is 60:40 of grass to forbs, which means 4 lbs PLS grass seed/acre and 2 lbs PLS forbs/acre. You can reduce the amount of forbs, but keep the total mixture at 6 lbs PLS/acre.

### Fertilization Requirements

Fertilizer is not required to establish native warm-season grasses. However, if you use Imazapeth herbicide and you obtain good weed control, you can apply 25 lbs of 10-10-10 liquid fertilizer/acre in mid- to late July in addition to amendments recommended from the Cooperative Extension Service soil test results.

## Species Adaptability to Various Site Conditions

### *Shallow or Ridge-top Soils (dry)*

Side-oats grama  
Little Bluestem  
Prairie Dropseed

### *Mesic Well-drained Soils (moist)*

Little Bluestem  
Big Bluestem  
Indiangrass  
Switchgrass

### *Bottomland or Soils*

Prairie Cordgrass  
Eastern Gamagrass  
Indiangrass

### *Forbs (Wildflowers)\**

Lance-leaf coreopsis  
Purple Coneflower  
Butterfly Weed  
Spiked Blazingstar  
Wild Bergamot  
Gray Coneflower  
Black-eyed Susan

### *Legumes\**

Illinois Bundleflower  
Partridge Pea  
Round-headed Bushclover  
Purple Prairie Clover

\* These are the most inexpensive forbs and legumes that can be added to mixes in large quantities. For additional forb recommendations, contact a professional natural resources person who can identify additional species that may be added in small quantities to diversify

**Do not use the following species in Kentucky because these plants are considered invasive exotic species that degrade natural areas:**

Ox-eye Daisy  
Queen Anne's Lace  
Yarrow  
Plains Coreopsis  
Maximillian Sunflower  
Chicory  
Dame's Rocket  
Catchfly  
Blanketflower

### **Post-planting Management**

If weed problems develop during the first year, it is best to mow the field at a height of 12 inches once in July and August. Thereafter, burning every 3 to 5 years is the best maintenance for these grasses. However, research has shown that mowing or grazing to a height of no lower than 6 to 12 inches can also be effective and can create some of the same desired outcomes as burning.

Trade names are used for simplicity, and *where trade names are used, no endorsement is intended, nor criticism implied of similar products not named.* Always read and follow manufacturer's label prior to applying any herbicide.

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