NRCS Natural Resources Conservation Service

Field Border

Native Warm-Season Grass Planting

Conservation Practice Job Sheet 386

Participant Name _____

INFORMATION ON THIS JOB SHEET IS CONSIDERED TO BE PART OF THE CONTRACT AND/OR CONSERVATION PLAN.

Definition

Field borders are strips of permanent vegetation established at the edge or around the perimeter of a field. Vegetation consists of adapted grasses, legumes, forbs and/or shrubs.

Purpose

A field border is used to perform one or more of the following:

- Reduce erosion from water
- Protect soil and water quality
- Manage pest populations
- Provide wildlife food and cover
- Increase carbon storage
- Improve air quality

Where Used

Field borders are located at the edges of crop fields and can connect to other buffer practices within fields. They may also apply to recreational land or on other land where agronomic crops or forage are grown.

Conservation Management System

Field borders are normally established as part of a conservation management system to address the soil, water, air, plant, and animal needs including wildlife and the owner's objectives.

A field border can be used with contour farming, contour strip cropping, cross-slope farming patterns, or rows or headlands in uphill and downhill directions. It also provides a turning area for farm equipment, which reduces sheet, rill, and gully erosion.

Field borders can also provide forage production and improve farm aesthetics. They are most effective when used in combination with other agronomic or structural practices to provide conservation benefits.

If enrolled in the Conservation Reserve Program (CRP), borders shall not be used for forage, turn rows, roads or for storage of crops or equipment.

Wildlife

Field borders can enhance wildlife objectives. Benefits depend on the vegetative species used and management practiced. Consider using adapted native vegetation that can provide food and cover for important wildlife. Increase width, if needed, to provide necessary protection for nesting animals from predators. Also increase width to protect wildlife if a portion of the field border will be used for equipment movement or turn rows. Avoid mowing field borders between May 15st and August 1st which is the primary nesting season for ground-nesting birds and animals. When managing field borders for wildlife, never disturb (such as mowing or disking) more then 50 percent of the field borders surrounding a field in any one year.

Establishment Specifications

1. Native grass and native grass mixtures that include forbs/legumes will be seeded between April 15th and June 30th. Legumes can also be over seeded during the fall or spring after native grass planting. (Annual legumes may only be seeded in the spring.)
2. Species, seeding rates, and seeding dates will be according to Table 3.
3. Seed will conform to minimum state standards for purity, germination and other features. Seed tags and other information may be requested by NRCS representatives to verify contract compliance.
4. Soil amendments, when planned, shall be made according to University of Kentucky fertilizer recommendations. Typically, fertilization is not recommended on native grass plantings for conservation cover. See Table 3 for more detail on soil amendments.
5. Competition control, seedbed preparation and seeding shall be done according to the following.

Competition Control Before Planting

Competition control is critical to ensuring a good stand. Conventional seedbed preparation, herbicide application or both may be used to control competition prior to planting.

Several steps are required to get successful competition control when using herbicide especially on fescue stands. The first step in killing fescue is to mow the area in late summer for a fall herbicide burn down or in late Fall or early spring for a spring herbicide burn down. If possible after mowing and prior to herbicide application, remove the hay to provide a better seed bed and allow for better herbicide contact with vegetation. (Hay removal is not allowed if the area is currently under a CRP contract.) Herbicides should be applied after 4-6 inches of regrowth and when the vegetation is actively growing.

Burning is also a viable option for removing accumulated surface residue allowing better seeding depth consistency and better herbicide delivery to the remaining live weed growth. Burning must be done according to a detailed burn plan from KDFWR, The Nature Conservancy or a TSP.

If needed, a second herbicide application should be planned. This application should occur just prior to native grass planting and after the remaining vegetation has regrown to a 4 - 6 inch height. All herbicide applications shall be made when vegetation is actively growing.

A second herbicide application is required for dense fescue or orchard grass stands and other areas where competition may not be controlled by one herbicide application. Table 1 provides some options for controlling competition prior to planting.

Seeding and Seedbed Preparation

Important: Regardless of the seeding method used, the seeding depth for most species should never exceed ¼ inch unless specifically recommended. Avoid no-till planting or cultipacking planted seedbeds in wet soil since it may result in placing the seed too deep. Having some seed on the soil surface is better than having it too deep.

No-till establishment is the preferred method since soil disturbance is minimum, thus reducing weed competition and the risk of soil erosion. Conventional seeding may be used for establishment on areas where weedy competition will be lessened and where the risk of soil erosion is minimal.

☑ No-Till Seeding

Smooth seeded species like Switchgrass can be planted using a no-till drill with the legume box set to place the seed ¼ inch deep.

Fluffy seeded species will need to be seeded with a no-till drill specialized to plant these seeds. These specialized drills have seed boxes with dividers and agitators, picker wheels, and oversized drop tubes. Specialized drills are also designed so they can be adjusted to ensure shallow planting depths. Some conventional no-till drills have been retro fitted with a fluffy grass seed box. Care needs to be exercised when setting these drills to ensure that planting depths are no deeper than ¼ inch. Two common mistakes when no-till planting native grasses include pulling

the drill to fast and not stopping to check seeding depth often enough.

☑ Conventional Seeding

A seedbed may be prepared by disking two or more times to make a clean, firm seedbed. After disking, make at least one trip over the field using a cultipacker to firm the seedbed. The importance of a dry firm seedbed cannot be over emphasized to ensure proper planting depth.

Broadcast fluffy seed with a drop spreader. When using a cyclone type spreader, a carrier should be used to help distribute the seed. The following carriers may be used: pelletized lime at a 200 lbs/acre rate; or oats at 32 lbs./acre rate. Since fluffy seed will only broadcast as far as the carrier, make sure your passes overlap to ensure even coverage. If oats or other cereals are used as a carrier, mow prior to seed head formation.

After broadcasting, cultipack or roll the seeded area only once to ensure good seed to soil contact and the proper, shallow seeding depth.

☑ Eastern Gama Grass Planting

Eastern Gama grass may be planted into a conventionally tilled seedbed or into grass sod using a corn planter. Since some corn drills do not handle the seed as well as others a trial run should be conducted prior to the planting operation. Planting depth for Eastern Gama grass shall not be deeper than 1-1½ inches.

Operation and Maintenance

Competition control remains an important part of native grass establishment for up to two years after planting. To control competition and prevent weed seed formation, native grass stands may be top clipped during this period as recommended by NRCS, Kentucky Department of Fish and Wildlife Resources, or a Technical Service Provider. Post-emergent herbicides like Plateau may also be used to control competition during the two-year establishment period when recommended by one of the above technical service providers.

Inspect and repair field borders after storms to fill in gullies, remove sediment, reseed disturbed areas, and take other measures to ensure the effectiveness of the border.

If the field border is being established under a program, the participant must follow management requirements as outlined in the program specific Management and Maintenance Job Sheet that is attached.

Table 1. This table contains options for controlling competing vegetation with burn down herbicides* prior to planting native grasses. Eastern Gamagrass, Switchgrass, Virginia Wild Rye, and some forbs/wildflowers may not be compatible with the active ingredient, imazapic. If imazapic-containing herbicides will be used, check the label to determine which forbs/legumes are compatible with imazapic prior to species selection. Remove excess vegetation prior to application if needed. (For land currently under a CRP contract, vegetation can only be mowed and may not be removed.) Apply herbicide after vegetation has re-growth of at least 4 - 6 inches.

Applied	Option	Current Condition (circle one)	Timing	Method
☐	1 (Single Application)	Cropland Or Grassland (excluding tall fescue)	Spring (April/June)	Apply just prior to planting. Herbicide Rate: 26-39 ounces of glyphosate active ingredient (a.i.) per acre. May be tank-mixed with 1-2 ounces of imazapic a.i. per acre.*
☐	2 (Two Applications)	Grassland	Spring (April/June)	Apply first application several weeks before planting and second application should be applied just prior to planting if green up occurs two to four weeks after initial application. • 1st Herbicide Application Rate: 26-39 ounces of glyphosate active ingredient (a.i.) per acre.* • 2nd Herbicide Application Rate: 6.5-13 ounces of glyphosate active ingredient (a.i.) per acre. May be tank-mixed with 1-2 ounces of imazapic a.i. per acre.*
☐	3 (Two Applications)	Grassland	Fall (Sept/Oct) And Spring (April/June)	**Fall** Herbicide Application Rate: 13-20 ounces of glyphosate active ingredient (a.i.) per acre.* **Spring** Herbicide Application Rate: 26-39 ounces of glyphosate active ingredient (a.i.) per acre. May be tank-mixed with 1-2 ounces of imazapic a.i. per acre.*

* These rates are directly from the University of Kentucky publication "Weed Management In Grass Pastures, Hay Fields, and Other Farmstead Sites" (AGR-172) and based on a 41% a.i. formulation; Washburn, B. E. and Barnes, T. G., 2000, "Native Warm-Season Grass and Forb establishment using imazapic and 2, 4-D", *Native Plants Journal*, Vol. 1, No. 1, pp. 61-69; and the University of Tennessee publication "Native Warm-Season Grasses: Identification, Establishment and Management for Wildlife and Forage Production in the Mid-South" (PB1752). AGR172 was specifically referenced from the *Pasture Renovation or Replacement of Endophyte-Infected Tall Fescue* section. Additional information pertaining to vegetation control can be found in the above listed references. Note: Methylated soybean oil (MSO) or other additives may be used according to the label.

Purpose (check all that apply)	
☐ Reduce erosion from water	☐ Protect soil and water quality
☐ Provide wildlife food and cover	☐ Manage pest populations
☐ Increase carbon storage	☐ Improve air quality

Table 2. The following table contains information about a planned herbicide application(s) to be carried out as part of the conservation plan for native grass plantings. Some herbicide applications will be made prior to planting (pre-planting) to burn down existing vegetation. Other applications may be made after planting (post-planting) to help control competition during establishment. All herbicide products must be used according to label specifications.

Field No.	Option (from Table 1)	Pre-Planting Application (Tentative Date)	Post-PlantingApplication (Tentative Date)	Comments

Table 3. Species and seeding rates will be according to the information provided in the table below. If planned, the application of soil amendments shall be made according to University of Kentucky fertilizer and lime recommendations. All recommendations must be made from a soil test that is performed according to University of Kentucky laboratory soil test procedures. If additional room is needed on the tables below or above, make copies of this page and attach it to the back of the job sheet. If shrubs are planned in a field border, see the Tree/Shrub Establishment (612) Job Sheet for technical requirements associated with shrub handling and planting.

Field No.	Border Average Width (ft)	Acres	Species	Lbs./Ac Seed (PLS)* or Seedlings/Ac	Total Lbs. (PLS)*	Seeding Method (Conv./No-Till)	P_2O_5 Lbs/Ac	K_2O Lbs/Ac	Seeding Date

* Native grass recommendations are made on a Pure Live Seed (PLS) basis.

Additional Information:

Program specific requirements or additional technical recommendations that may apply are as follows:

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