NRCS Natural Resources Conservation Service

Field Border (386)

Native Grass Planting

Kentucky Conservation Practice Job Sheet — August 2004

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

Purpose

A field border is used to reduce soil erosion from wind and water, protect soil and water quality, manage harmful insect populations, provide wildlife food and cover, increase carbon storage in biomass and soil and/or 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 forages 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 habitat. 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. Avoid mowing field borders between May 15th 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 than 50 percent of the field borders surrounding a field in any one year.

Specifications

Site-specific requirements including field border width are listed in Table 3. Specifications are prepared in accordance with the NRCS Field Office Technical Guide and the Kentucky Field Border practice standard (386).

Planting 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 during the spring.)

2. Species, seeding rates, and seeding dates will be according 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. Nitrogen is not recommended on native grass plantings for field borders.

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 of native grass. 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 summer or early spring for a spring herbicide burn down. If possible after mowing and prior to herbicide application, remove the ground litter to provide a better seed bed and allow for better herbicide contact with vegetation. (If under a CRP contract, removed ground litter can not be used for feeding livestock or any commercial gain.)

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. Table 2 provides treatments needed for establishment.

Seeding and Seedbed Preparation

Important: Regardless of the seeding method used, seeding depth should never exceed ¼ inch. 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 soil erosion. Conventional seeding may be used for establishment on areas that have been recently cropped where weedy competition will be lessened and on areas where the risk of soil erosion is minimal.

No-Till Seeding

Smooth seeded species like Switchgrass can be planted using a conventional 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

Prepare a clean seedbed by plowing and disking. 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 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 (if available) 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 specifications in Tables 2 & 3. Follow all management requirements as outlined in the program specific Management and Maintenance Job Sheet that is attached.

Table 1. This table contains several options for controlling competing grasses and weeds during native grass establishment. If two burn downs are planned, records should indicate that herbicide was applied to the field twice. Eastern Gama Grass, Switchgrass, Virginia Wild Rye, and some forbs/wildflowers may not be compatible with Plateau herbicide. If Plateau herbicide will be used, check the label to determine which forbs/legumes are compatible with Plateau prior to species selection. **All herbicides shall be applied and used according to label recommendations. Some herbicides restrict grazing or hay harvest for a period of time after application. Two burn downs are required when the dominant species in a field is either fescue or orchardgrass.**

Option	Current Condition	Timing	Method
1 Single Burn Down	Grassland or Cropland	Spring	(This option should not be used when Fescue or Orchardgrass is the predominant cover. Two herbicide burndowns are required when Fescue or Orchardgrass is the predominant cover.) Remove excess vegetation in fall or winter. Apply tank mixture just prior to planting and after vegetation has grown 4 to 6 inches. (For land currently under a CRP contract, vegetation can only be mowed and may not be removed.) Tank Mixture: per acre in April – June Apply 1.5 quarts Roundup Ultra* (or similar Glyphosate base product). May be tanked mixed with Journey* at a rate of 10.7 oz/acre. If Plateau* is available, it can be applied instead of Journey* at a rate of 4-8 oz per acre. Follow all label instructions. Methylated soybean oil (MSO) or similar adjuvant may be added to the mixture to aid in product effectiveness.
2 Two Burn Downs	Grassland	Fall And Spring	Remove excess vegetation in late summer (Aug./Sept.) Apply tank mixture after vegetation has actively grown 4 to 6 inches. (For land currently under a CRP contract, vegetation can only be mowed and may not be removed.) Tank Mixture: per acre in Sept./Oct. 1 to 2 Quarts Roundup Ultra* or similar Glyphosate based product. Follow all label instructions. Note: Ammonium Sulfate or other additives may be used when applying herbicide at lower rates. And Apply tank mixture just prior to planting and after remaining vegetation grows 4 to 6 inches. Tank Mixture: per acre in April-June Apply 1.5 quarts Roundup Ultra* (or similar Glyphosate base product). May be tank mixed with Journey* at a rate of 10.7 oz/acre. If Plateau* is available, it can be applied instead of Journey* at a rate of 4-8 oz per acre. Follow all label instructions. Methylated soybean oil (MSO) or similar adjuvant may be added to the mixture to aid in product effectiveness.
3 Two Burn Downs	Grassland	Spring And Spring	Remove excess vegetation in fall or winter. Apply tank mixture after vegetation has actively grown 4 to 6 inches. (For land currently under a CRP contract, vegetation can only be mowed and may not be removed.) Tank Mixture: per acre in April. 1 to 2 Quarts Roundup Ultra* or similar Glyphosate based product. Note: Ammonium Sulfate or other additives may be used when applying herbicide at lower rates. And if green-up occurs two to four weeks after initial spraying. Apply tank mixture just prior to planting and after remaining vegetation grows at least 4to 6 inches. Tank Mixture: per acre in April-June Apply 1.5 quarts Roundup Ultra* (or similar Glyphosate base product) May be tank mixed with Journey* at a rate of 10.7 oz/acre. If Plateau* is available, it can be applied instead of Journey* at a rate of 4-8 oz per acre. Follow all label instructions. Methylated soybean oil (MSO) or similar adjuvant may be added to the mixture to aid in product effectiveness.

NRCS does not require specific herbicides by trade name. The active ingredient in Roundup is glyphosate. The active ingredient in Plateau is imazameth. The active ingredients in Journey are glyphosate and imazameth. Other brands of herbicide containing these ingredients may be substituted; however, application rates, application timing, and results may vary. Additional information regarding vegetation control can be found in the University of Kentucky publication "Weed Management In Grass Pastures, Hay Fields, and Fence Rows" (AGR-172).

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 Number	Field Border Width (ft)	Pre-Planting Application(s) (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 Width	Acres	Species	Lbs./Ac Seed (PLS)* or Seedlings/Ac	Total Lbs. (PLS)*	Seeding Method (Conv/No-Till)	P2O5 Lbs/Ac	K2O Lbs/Ac	Lime Tons/Ac	Seeding Date

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