

Field Border – native grass planting

Virginia Conservation Practice Job Sheet

386(c)


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, 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 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. Field borders used with

contouring, contour stripcropping, cross-slope farming patterns, or terraces eliminate the normal planting of

end rows or headlands in uphill and downhill directions.

Field borders also provide a turning area for farm equipment, which reduces sheet, rill, and gully erosion. In addition, field borders can 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 WHIP or 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. Use adapted native vegetation to provide food and cover for important wildlife species. Increase width, if needed to provide necessary protection for nesting animals from predators. Also increase width to protect wildlife if a (a non-CRP or WHIP) portion of the field border will be used for equipment movement or turn rows. Avoid mowing field borders between April 15th and August 15th which is the primary nesting season for ground-nesting birds and animals. When managing field borders for wildlife, never disturb (such as burning or disking) more than 50 percent of the field borders surrounding a field in any one year.

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, Virginia Department of Game and Inland Fisheries, or a Technical Service Provider. Post-emergent herbicides, like imazameth based products, 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.

Specifications

Field borders are a minimum of 35 feet wide. Site-specific requirements are listed on the specifications sheet. Additional provisions are entered on the job sketch sheet. Specifications are prepared in accordance with the NRCS Field Office Technical Guide and the Virginia Field Border practice standard (386). Refer also to practice standards Upland Wildlife Habitat Management code 645, Early Successional Habitat Development code 647 and Prescribed Burn code 338.

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. It is important to order seed early in the planning process to avoid sell outs of prescribed seed.
3. It is important to identify a drill available for use or rental during specified planting time.
4. Species, seeding rates, and seeding dates will be according to the specification sheet.
5. Tall grasses with short grasses will not be used as a mixture for planting. In general, the preferred tall grass plantings should be 3-5 lbs PLS of Warm Season Grasses to include
 - no more than 1 lb/acre PLS of Indiangrass
 - Less than 1/2 lb/acre PLS of switchgrass although no switchgrass is preferred.
6. Short grasses should be planted with forbs and legumes. Plantings should include
 - no more than 2 lbs of four species forb mix that includes 1/2 to 1 lb partridge pea
 - part of the four species forb mix should include butterflyweed, black-eyed susan or a native coreopsis for native pollinators
 - 2-3 lbs/acre PLS of little blue stem
 - 1 lb of broomsedge may be substituted for 1 lb of the little blue stem
7. 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.

8. Soil amendments, when planned, shall be made according to Virginia Tech fertilizer recommendations. Nitrogen is not recommended on native grass plantings for field borders.

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 undesirable 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. If possible after mowing and prior to herbicide application, remove the cut vegetation by prescribed burn to provide a better seed bed and allow for better herbicide contact with vegetation.

If needed, a second herbicide application should be planned. This application should occur after the remaining vegetation has regrown to a 4 – 6 inch height. All herbicide applications shall be made when vegetation is actively growing. Table 1 provides herbicide treatment options.

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.

No-till Seeding

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 1/4 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

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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: palletized lime at 200lbs/acre rate; cracked corn at 50 lbs/acre or oats at 32lbs/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, between rows of newly planted corn, in wet soils 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.



Table 1. This table contains several options for controlling competing, non-desirable vegetation during native grass establishment. If two burn downs are planned, records should indicate that the herbicide was applied to the field twice. Eastern Gama grass and some forbs/wildflowers may not be compatible with imazameth containing products (check label for compatibility). All herbicides shall be applied and used according to label recommendations and may slightly differ from that listed below.

Option	Current Condition	Timing	Method
1 Single Burn Down	Grassland Or Cropland	Spring	<p>(This option should not be used when tall Fescue or Orchardgrass is the predominant cover. Two herbicide burndowns are required when Fescue is the predominant cover.)</p> <ol style="list-style-type: none"> 1. Remove excess vegetation in fall or winter. 2. Apply tank mixture after vegetation has grown 4 to 6 inches. <u>Tank Mixture: per acre in April – June</u> Apply 1.5 quarts glyphosate base product. May be tanked mixed with a glyphosate/imazameth mixture at a rate of 10.7 oz/acre. <p>If imazameth alone is available, it can be applied instead of the glyphosate/imazameth mixture at a rate of 4-8 oz per acre. Follow all label instructions.</p>
2 Two Burn Downs	Grassland	Fall And Spring	<ol style="list-style-type: none"> 1. Remove excess vegetation in late summer (Aug./Sept.). 2. Apply tank mixture after vegetation has actively grown to 4 to 6 inches. <u>Tank Mixture: per acre in Sept./Oct.</u> 1 to 2 quarts glyphosate based product. Follow all label instructions. <p>AND</p> <ol style="list-style-type: none"> 3. Apply tank mixture just prior to planting and after remaining vegetation grows 4 to 6 inches <u>Tank Mixture: per acre in April-June</u> Apply 1.5 quarts glyphosate based product. May be tank mixed with glyphosate/imazameth mixture at a rate of 10.7 oz/acre. If imazameth alone is available, it can be applied instead of the glyphosate/imazameth mixture at a rate of 4-8 oz per acre. Follow all label instructions.
3 Two Burn Downs	Grassland	Spring And Spring	<ol style="list-style-type: none"> 1. Remove excess vegetation in fall or winter 2. Apply tank mixture after vegetation has actively grown 4 to 6 inches. <u>Tank mixture: per acre in April</u> 1 to 2 quarts glyphosate based product. <p>IF green-up occurs two to four weeks after initial spraying:</p> <ol style="list-style-type: none"> 3. Apply tank mixture just prior to planting and after remaining vegetation grows at least 4 to 6 inches. <u>Tank mixture: per acre in April-June</u> Apply 1.5 quarts glyphosate based product. May be tank mixed with glyphosate/imazameth mixture at a rate of 10.7 oz/acre. If imazameth alone is available, it can be applied instead of the glyphosate/imazameth mixture at a rate of 4-8 oz per acre. Follow all label instructions.

*NRCS does not require specific herbicides by trade name and recommendations on herbicides and specifications on rate and timing should come from an extension agent.

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<i>Landowner:</i>	<i>Farm #:</i>
<i>Field(s):</i>	<i>Tract #:</i>
<i>Designed By:</i>	<i>Date:</i>
<i>Drawing No(s):</i>	<i>Signature:</i>

Installation shall be in accordance with the specified drawings, specifications, and special requirements. **No changes are to be made in the drawings or specifications without prior approval from the technical specialist developing the plan.**

Sketch of Layout

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

Field Number	Field Border Width (ft) (minimum 35 ft)	Pre-Planting Application(s) [Tentative Date]	Comments	Cover crop & Rate (year 1 only)

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