

Field Border

Herbaceous Field Borders for Upland Wildlife

KY Conservation Practice Job Sheet

Code 386



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 may be used to reduce soil erosion, protect soil and water quality, manage harmful insect populations, or provide wildlife food and cover.

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 also provide a turning area for farm equipment, which reduces sheet, rill, and gully erosion in cropland. In addition, field borders can provide forage production and improve farm aesthetics.

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, odd areas or on other land where agronomic crops are grown. They are most effective when used in combination with other agronomic or structural practices to provide conservation benefits.

Wildlife Criteria

This job sheet will help you design herbaceous field borders that provide optimum wildlife habitat.

The benefits to wildlife depend on the vegetative species used and the management practiced. If planting, consider using adapted native vegetative species that provide food and cover for wildlife. Increase the width if necessary to provide protection from predators.

Field borders can be developed to create valuable cover and food resources for wildlife that inhabit grassy and brushy habitats. They may also provide foraging opportunities for typical forest wildlife, such as bobwhite quail, fox, indigo buntings, whitetail deer and wild turkey. These areas may increase the availability of food resources such as seeds and insect prey and provide critical winter and nesting cover for a variety of species.

Planting or natural regeneration or a combination of both may establish field borders. Some general criteria apply to establishment:

- The minimum width of a field border for wildlife is 30 feet. The width of the border may need to be increased to protect wildlife if a portion of the field border will be used for equipment movement or turn rows in crop fields. In this case, the field border width should be sufficient to allow a minimum of 30 feet of undisturbed habitat (see Figure 1).
- For wildlife habitat purposes, field borders will appear unkempt and be composed of a variety of plant species including forbs, grasses, shrubs and legumes.
- A field border managed for wildlife should attain a height of 3-6 feet. It should be comprised of planted species as well as volunteer vegetation. (See Table 1 Suggested Wildlife Field Border Mixtures).
- Natural regeneration can be used for establishing a field border if a 60% ground cover is established and maintained within the first two growing seasons in the planned area.
- In most instances, planting along with volunteer species provide the optimum wildlife habitat. However, infestations of Johnsongrass and other non-beneficial plants should be controlled.



Field borders consist of adapted species of permanent grass, legumes and/or shrubs. They are more effective and provide more environmental benefits when planted around the entire field. Plants that attract beneficial insects can increase the population of beneficial insects that prey on harmful ones.

- Sites that contain dense tall fescue sods may need to be renovated prior to re-establishment to more wildlife friendly species.
- Consider the use of two different zones within a field border to maximize the habitat and diversity. The zone closest to the field is subject to greater disturbance from farm equipment, while the outside zone is protected from frequent disturbance (refer to Figure 1).

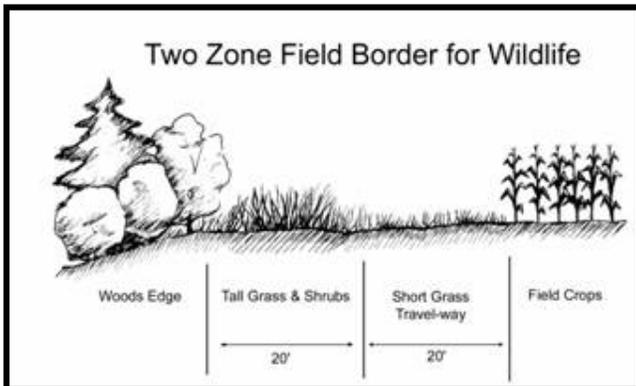


Figure 1. Two-zone field borders can also be used to decrease the abruptness of edges and provides a smooth edge between the shorter vegetation and the adjacent woody cover.

- For slopes less than 5%, conventional seedbed preparation and minimum or no tillage techniques may be used. Disking and cultipacking before and after planting should be performed. Where no erosion hazards exist, natural regeneration may be established by using an approved herbicide on existing undesirable vegetation or by simply disking and idling the border area. For slopes greater than 5%, minimum or no tillage techniques are recommended.

Operation and Maintenance

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

Allow enough time for establishment prior to harvest or disturbance; and exclude livestock during the establishment period and critical nesting timeframes.

Periodic disturbance of field borders is necessary to stimulate growth of desirable vegetation and to eliminate encroachment of woody vegetation. As a rule of thumb, disturbance should occur within a field border every 3-5 years.

Not more than 30% of the entire field border habitat should be disturbed in any one year. In addition, never disturb the entire field border habitat around a single field in the same year (see Figure 2).

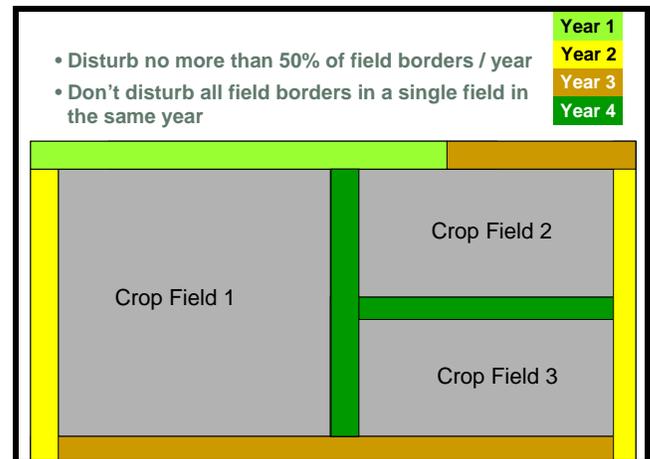


Figure 2. A simplified disturbance management scheme.

Field borders should not be disturbed during the nesting season (May15 – Aug 1) to protect ground-nesting wildlife.

In place of mowing, consider other vegetative management techniques, such as “wickbar” herbicide applicators, controlled burning or lightly disking the field border on a rotational basis to promote growth of native vegetation.

Table 1. SUGGESTED OPTIONAL FIELD BORDER MIXTURES BENEFICIAL TO WILDLIFE

In addition to those species and mixes listed in 327 Conservation Cover the mixes listed below may be utilized for wildlife field borders. Table 1 contains a list of seed mixtures that are suitable for wildlife field borders. Other mixtures and species may be suitable for wildlife. For a list of woody shrub species, planting methods and spacing requirements suitable for planting refer to the KY Conservation Practice Standard (612) Tree/Shrub Establishment and/or associated job sheets.

MIX #	PLANTING DATE**	MIXTURE/RATE per acre
1	October 4 – November 1 (small grain) then Feb 15 – April 1 (lespedeza)	Small grain (40 lbs. wheat or rye planting over-seeded with lespedeza (Kobe or Korean)
2	April 15 – June 30	10 lbs. shrub lespedeza, 5 lbs. partridge pea, 4 lbs. little bluestem
3	March 1 - April 15 or Aug. 1 – Sept. 10	5 lbs. timothy and 8 lbs. birdsfoot trefoil
4	March 15 – May 15	4 lbs. switchgrass and 6 lbs. shrub lespedeza
5	Feb. 15 – Apr. 15	3 lbs. ladino or white Dutch clover, 5 lbs. an annual lespedeza (Kobe or Korean), 5 lbs. red clover, 5 lbs. partridge pea
6	Sept. - October	8 lbs. orchardgrass, 40 lbs. wheat or rye, 2 lbs. Ladino clover, 5 lbs. crimson clover
7	Sept. - October	10 lbs. shrub lespedeza, 40 lbs. wheat/rye/oats, 4 lbs. little bluestem, 3 lbs. inoculated white clover, 2 lbs. switchgrass
8	March - May	VA-70 or Amquail lespedeza 8 lbs./ac. or 15 lbs./ac (broadcast)
9	Sept. 15 – Nov. 1	40 lbs. small grain (wheat or rye) planting allowed to develop into native vegetation (natural regeneration) <i>*used with concurrence of State Biologist</i>

** For mixtures containing warm season grasses, the seed is measured in Pure Live Seed (PLS) and should be stratified prior to planting. Unstratified seed should be planted November 15 – March 1. Inoculate all legume seed with the proper inoculants prior to planting.

Specifications

Site-specific requirements are listed on the specification sheet. Additional provisions are entered on the job sketch sheet. Specifications are prepared in accordance with the NRCS Field Office Technical Guide and the Field Border practice standard (386).

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Client:		Farm #:
Field(s):	Date:	Tract #:

Additional Purpose(s) (check all that apply)	
<input type="checkbox"/> Reduce erosion from wind and water	<input type="checkbox"/> Management of harmful insect populations
<input type="checkbox"/> Soil and water quality protection	<input type="checkbox"/> Provide terrestrial wildlife food and cover (exclusive of pollinators)
<input type="checkbox"/> Serves as a turn row in crop field settings	<input type="checkbox"/> Enhancement practice for CSP or CRP Practice (Program requirements and guidelines may differ from technical specifications and requirements.)

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Existing Vegetation (Area to be converted to a field border)	
<input type="checkbox"/> Tall fescue or other sod requiring removal prior to establishment of more beneficial vegetation (Refer to site preparation specifications)	<input type="checkbox"/> Other lands or vegetation that is non-beneficial to wildlife <input type="checkbox"/> Cropland containing minimal noxious or sparse vegetation unsuitable to wildlife

Additional Information	
<input type="checkbox"/> Refer to the pesticide risk assessment attached (WinPST)	<input type="checkbox"/> Refer to the attached herbicide recommendation from the University of KY

Layout	Field _____	Field _____
Number of zones planned ¹		
Border width (ft.)		
Border length along edge of field (ft.)		
Total Area (acres)		
Slope %		
Target or Planted Species (or Mixture # from Table 1) ²		
Method of Establishment ³		
Seeding rate (lbs. pure live seed or lbs/acre)		
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Method of Establishment ³		
Seeding rate (lbs. pure live seed or lbs/acre)		
Planting Dates		
Lime (tons/acre)		
Supplemental Nutrients N,P,K (lbs./acre)		
See additional attached information regarding species		

¹ For herbaceous borders list the number of zones planned: **1 or 2**.

² List the species planted or the desired species expected through natural succession. If planting one of the mixtures listed in this document, simply list the mixture number found in the left column of Table 1.

³ Identify how the field border is to be established: **Drilled, Broadcast, Natural Regeneration** or **Other** suitable method (specify in the Planting Method section). Refer to practice standard (342) Critical Area Planting for information regarding seedbed preparation. *No variety of tall fescue or reed canarygrass shall be used for planting in conjunction with this practice.*

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Site Preparation

If fescue sod is present it may need to be removed prior to establishment of more wildlife friendly species. Double Burn Down Grasslands adjacent to cropland or other area. Remove as much vegetation as possible in late summer (Aug to Sept.) by mowing, burning or grazing. Apply broad spectrum herbicide after vegetation has actively grown to 4 to 6 inches in Sept/Oct. Apply broad spectrum herbicide again just prior to planting and after the remaining vegetation grows 4 to 6 inches in April to May. Follow all label instructions. Prepare an appropriate seedbed depending on planting method. **Additional requirements:**

Planting Methods (Complete as appropriate)

- A. Seed should be **broadcast** at a rate of _____ lbs/ac. If necessary, mulch newly seeded area with _____ tons per acre of mulch material. A small grain crop may be needed as a companion crop at the rate of _____ pounds per acre (clip or harvest before it heads out).
- B. **Drill** seed _____ inches deep uniformly over area. Establish vegetation according to the specified seeding rate. If necessary, mulch newly seeded area with _____ tons per acre of mulch material. A small grain crop may be needed as a companion crop at the rate of _____ pounds per acre (clip or harvest before it heads out). **Additional requirements:**

Operation and Maintenance

Maintain original width and length of field border(s). Harvest, mow, reseed, and fertilize as necessary to maintain plant density and vigorous plant growth. **Note:** *Where wildlife is a primary consideration, fertilization may result in stands becoming too dense for wildlife use. Maintain a proper stand density for the purpose(s) intended.* Inspect after major storms, remove trapped sediment, and repair eroding areas. Shut off pesticide sprayers when turning on a field border. Regular disturbance may be necessary to maintain the intended function of the field border. Do not disturb more than 30% of all field border habitats in any one year. Do not disturb the entire field border habitat around a single field in the same year. Field borders should not be disturbed during the nesting season (May15 – Aug 1) to protect ground-nesting wildlife. If disking is planned as maintenance, refer to the associated job sheet for specifics. **Additional requirements:**

CERTIFICATIONS

Job Sheet	Prepared by:	Title:	Date:
	Approved by:	Title:	Date:
Installation	Meets NRCS standards and specifications.		
	Certification by:	Title:	Date:

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