

FIELD BORDER

(Acres)
Code 386

Natural Resources Conservation Service
Conservation Practice Standard

I. Definition

A strip of permanent vegetation established at the edge or around the perimeter of a field.

II. Purposes

This practice may be applied as part of a conservation management system to support one or more of the following:

- reduce erosion from wind and water,
- protect soil and water quality,
- provide pollinator food and cover,
- provide wildlife food and cover,
- increase carbon sequestration, and
- improve air quality.

III. Conditions Where Practice Applies

This practice applies at the edges of cropland fields and to connect other buffer practices within the field. This practice may also apply to recreation land or other land uses where agronomic crops are grown.

IV. Federal, Tribal, State, and Local Laws

Users of this standard should be aware of potentially applicable federal, tribal, state and local laws, rules, regulations, or permit requirements governing field borders. This standard does not contain the text of federal, tribal, state, or local laws.

V. Criteria

A. General Criteria Applicable to All Purposes

1. Extent

Field borders will be established around the field edges to the extent necessary to address the identified resource protection needs and producer objectives.

All field borders shall be at least 20 feet wide and will be sized to accommodate the travel and turning needs of the current farm equipment.

2. Vegetation

The field borders will be established to adapted species of permanent grass, forbs, legumes, and/or shrubs that do not serve as hosts to harmful insects or diseases.

a. Seeding

Seed mixtures shall include fibrous, deep-rooted, sod-forming grasses. Plant species, seedbed preparation, seeding rates, dates, depths, and planting methods will be consistent with Wisconsin NRCS Field Office Technical Guide (FOTG), Section IV, Standards 342, Critical Area Planting, or 327, Conservation Cover. Refer to NRCS Wisconsin Agronomy Technical Notes 5, Prairie Establishment/Restoration Seeding Recommendations, and 6, Conservation Cover Seeding Recommendations, for specific details.

b. Existing Vegetation

Field borders may be established by leaving appropriate areas of existing pasture or hayland vegetation when rotating to row crops where the existing cover is sufficient to control erosion.

3. Concentrated Flow Channels

Ephemeral gullies and rills present in the planned border area will be eliminated during the seedbed preparation.

B. Additional Criteria to Reduce Erosion from Wind and Water

1. Water Erosion Reduction

As a minimum, install borders to protect sloping end rows, headlands, and other areas where concentrated water flows will enter or exit the perimeter or edge of a field.

If these areas are mowed or harvested for hay, the last cutting will not be later than September 15 to allow sufficient time for the vegetation to recover prior to a killing frost.

2. Wind Erosion Reduction

As a minimum, provide a stable area on the upwind edge of the field as determined by prevailing wind direction data.

Plant stiff-stemmed, upright grasses to trap saltating soil particles.

Minimum height of grass shall be one foot during the critical erosion period.

C. Additional Criteria to Protect Soil and Water Quality

1. Reducing Runoff and Increasing Infiltration

Locate borders around the entire perimeter of the field, or as a minimum, install borders where they will slow or collect surface runoff.

2. Maintaining Field Setback Distances for Manure and Chemical Applications

Border widths will be designed to conform to minimum field application setback widths established by Wisconsin NRCS FOTG, Section IV, Standard 590, Nutrient Management, or state or local regulations.

3. Sediment Trapping

Locate borders around the entire perimeter of the field, or as a minimum, in areas where runoff enters or leaves the field.

4. Reducing Soil Compaction from Equipment Parking and Traffic

Border widths will be designed to accommodate equipment turning, parking,

loading/unloading during planting and harvest operations. If cover is destroyed by this use, it will be re-established.

D. Additional Criteria for Management of Harmful Insect Populations

1. Provide a Harbor for Beneficial Insects

Include herbaceous plants that attract beneficial insects that will act as predators on known pests. See planning considerations for more information on the use of forbs and shrubs.

Mowing, harvesting, and pesticide applications will be scheduled to accommodate life cycle requirements of the beneficial insects.

To enhance pollinator habitat, include a variety of native plants identified to provide pollen and nectar sources throughout the entire growing season. Refer to Wisconsin Biology Technical Note 8, Pollinator Biology and Habitat, for specific pollinator habitat information.

or

2. Conventional Field Border Management

Use mechanical, cultural, and/or chemical techniques to reduce pest populations when and where they congregate in a conventional field border. (See NRCS FOTG, Section IV, Standard 595, Pest Management.)

E. Additional Criteria to Provide Wildlife Food and Cover

Plants that provide wildlife food and cover shall be used.

Mowing is allowed after August 1 and before September 15 for purposes of weed control. Spot treatment is required for noxious weeds or invasive plants throughout the growing season.

Adapted shrubs (see Wisconsin NRCS FOTG Standard 645, Upland Wildlife Habitat Management) may be planted along the edge of woods or other suitable areas adjoining the crop field. Also refer to Wisconsin Biology Technical Note 8 for a list of pollinator plants.

Remove trees from the woodland border for a minimum of 20 feet or protect a minimum strip 20 feet wide adjacent to the field to encourage the growth of native shrubs. Non desirable invasive trees and brush species shall be controlled. See NRCS FOTG Standard 314, Brush Management, for more information. DO NOT remove trees that have a high potential for future sawlogs, serve as wildlife den trees, or heavy mast-producing trees.

F. Additional Criteria to Increase Carbon Storage

Establish plant species that produce large amounts of above- and below-ground biomass to provide a positive Soil Conditioning Index. Do not burn if the goal of the field border is to store carbon. Do not use tillage to disturb the roots of established vegetation.

VI. Planning Considerations

Additional recommendations relating to the use of this practice which are not required are as follows.

- A. Field borders are more effective and provide more environmental benefits when planted around the entire field.
- B. To facilitate turning, consider sizing field borders at least 1.5 times as wide as the longest combination of farm equipment used on the field.
- C. To increase trapping efficiency, consider establishing a narrow strip of stiff-stemmed upright grass at the crop/field border interface.
- D. Field borders can be used to comply with required field setback distances applicable to manure and chemical applications.
- E. The use of native plants and their wildlife enhancement and other benefits should be discussed during planning.
- F. Consider overseeding the border with legumes for plant diversity and wildlife benefits.
- G. Diversions or waterways may be needed to break up or redirect concentrated water flows within the borders.
- H. Consider plants tolerant to sediment deposition and chemicals planned for application.

- I. Rows of shrubs adjacent to field borders will often enhance the ability of the field borders to harbor beneficial insects, and may also provide additional wildlife benefits.
- J. Consider potential shading issues and plan species for those locations accordingly.
- K. Consider installing contour buffers, stripcropping, reduced tillage, or other conservation practices on adjacent cropland.

VII. Plans and Specifications

Plans and specifications are to be prepared for the practice site. The following items should be specified. Conservation Practice Job Sheet 386, Field Borders, is available to document these items:

- border widths and lengths based design criteria,
- location within the field or farm boundary,
- vegetation to be used,
- site preparation,
- planting method and timing,
- liming or fertilizer requirements, and
- operation and maintenance requirements.

VIII. Operation and Maintenance

Field borders require careful management and maintenance for performance and longevity.

The following will be planned and applied as needed.

- Repair storm damage.
- Remove sediment when 6 inches or more has accumulated at the field border/cropland interface.
- Shut off sprayers and raise tillage equipment to avoid damage to field borders.
- Shape and reseed border areas damaged by chemicals, tillage, or equipment traffic.
- Fertilize, mow, harvest, and control noxious weeds to maintain plant vigor.
- Ephemeral gullies and rills that develop in the border will be filled and reseeded.
- Avoid vehicle traffic when soil moisture conditions are saturated.
- Avoid cover disturbance during nesting season.

IX. References

USDA, NRCS Wisconsin Field Office Technical Guide, Section IV, Conservation Practice Standards and Specifications.

USDA, NRCS Wisconsin Agronomy Technical Note 5, Prairie Establishment / Restoration Seeding Recommendations.

USDA, NRCS Wisconsin Agronomy Technical Note 6, Conservation Cover Seeding Recommendations.

USDA, NRCS Wisconsin Biology Technical Note 8, Pollinator Biology and Habitat.

USDA, NRCS, Conservation Practice Job Sheet 386, Field Border.

Renard, K.G., G.R. Foster, G.A. Weesies, D.K. McCool, and D.C. Yoder, coordinators. 1997. Predicting soil erosion by water: A guide to conservation planning with the Revised Universal Soil Loss Equation (RUSLE). U.S. Department of Agriculture, Agriculture Handbook 703.

Revised Universal Soil Loss Equation Version 2 (RUSLE2) web site:
http://fargo.nserl.purdue.edu/rusle2_dataweb/.

USDA, NRCS, Revised Universal Soil Loss Equation Version 2 (RUSLE2) Wisconsin web site:
<http://www.wi.nrcs.usda.gov/technical/consplan/rusle.html>.