NATURAL RESOURCES CONSERVATION SERVICE

CONSERVATION PRACTICE STANDARD

FIELD BORDER

(Acre)

CODE 386

DEFINITION

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

PURPOSES

- Reduce erosion from wind and water
- Soil and water quality protection
- Manage pest populations
- Provide wildlife food and cover
- Increase carbon storage
- Improve air quality

CONDITIONS WHERE PRACTICE APPLIES

Perimeter of fields and to connect other buffer practices within the field. May also apply to recreation land or other land uses where agronomic crops including forages are grown.

CRITERIA

General Criteria Applicable to All Purposes

Minimum field border widths shall be based on criteria specific to the purpose or purposes for installing the practice.

Field borders will be established to adapted species of permanent grass, legumes, trees, and/or shrubs.

Field borders will be established around the field edges to the extent needed to meet the resource needs and producer objectives.

Plant material, seedbed preparation, seeding rates, dates, depths, and planting methods will be consistent with approved local criteria.

Ephemeral gullies and rills present in the planned border area will be smoothed as part of seedbed preparation.

Additional Criteria to Reduce Erosion from Wind and Water

Wind erosion reduction. Locate borders around the entire perimeter of the field, or as a minimum, to provide a stable area on the upwind edge of the field as determined by prevailing wind direction data. The minimum border width will be 20 feet. When placed downwind of the prevailing wind and adjacent to an elevated roadbed increase the border width 10 feet for every 1 foot of elevation in the road.

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

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

Water erosion reduction. Locate borders around entire perimeter of the field or, as a minimum, install borders to eliminate sloping end rows, headlands, and other areas where concentrated water flows will enter or exit the field. Borders will be a minimum of 20 feet wide.

Additional Criteria to Protect Soil and Water Quality

Reducing runoff and increasing infiltration. Locate borders around entire perimeter of the field, or as a minimum, install borders to eliminate sloping end rows, headlands, and other areas where concentrated water flows will enter or exit the field.

Maintaining field setback distances for manure and chemical applications. Border widths will be designed to conform to minimum field application setback widths established by state or local regulations.

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

Reducing soil compaction from equipment parking and traffic. Border widths will be designed to accommodate equipment parking, loading/unloading equipment, grain harvest operations, etc. Minimum border width will be 20 feet.

Additional Criteria to Manage Pest Populations

Provide habitat for beneficial organisms. Include appropriate plants that attract beneficial organisms. See planning considerations for including trees and shrubs.

Mowing, harvesting, pesticide application, and other disturbances will be scheduled to accommodate life cycle requirements of the beneficial organisms.

or

Provide a habitat to cause pest insects to congregate. Select plants for the field border that attract pest insects.

Use mechanical, cultural, and/or chemical techniques to reduce pest populations when and where they congregate in the field border.

Additional Criteria to Provide Wildlife Food and Cover

Establishment of plant species that provide wildlife food and cover shall be used.

Mowing, harvest, weed control, and other management activities within the field border will be scheduled to accommodate reproduction and other life cycle requirements of target wildlife species. Develop a site-specific management plan to enhance and protect the desired wildlife species.

The minimum border width for this purpose will be 30 feet.

Additional Criteria to Increase Carbon Storage

Establish plant species that will produce adequate above and below-ground biomass for the site (i.e., a positive soil conditioning index.)

Maximize the width and length of the border to fit the site and increase total biomass production.

Do not burn if the main goal of the field border is carbon storage.

Do not disturb the roots of the established vegetation with tillage.

Additional Criteria to Improve Air Quality

Establish plant species with morphological characteristics that optimize interception and adhesion of airborne particulates. Select plants with persistent roots and residue that stabilize soil aggregates and capture airborne soil particles.

PLANNING CONSIDERATIONS

Field borders are more effective and provide more environmental benefits when planted around the entire field.

Field borders enhance the aesthetics and provide stability around the field edge. They also provide turn and travel areas for equipment and reduce airborne dust.

Native species should be used, when feasible, and meet producer objectives.

To increase trapping efficiency, consider establishing a narrow strip of stiff-stemmed upright grass at the crop/field border interface.

In selecting plant species to establish in the field border, among other items, consider the plant's tolerance to:

- Sediment deposition and chemicals planned for application.
- Drought in arid areas or where evapotranspiration can potentially exceed precipitation during the field border's active growing period(s).
- Equipment traffic.

Water-bars or berms may be needed to breakup or redirect concentrated water flows within the borders.

If bank stabilization is a concern, select fibrous deep-rooted plants.

Field borders can be used to comply with required field setback distances applicable to manure and chemical applications.

Wildlife enhancement and other benefits of native plants should be discussed during planning.

Use field borders as corridors to connect existing or planned habitat blocks.

Prescribed burning, strip disking, or selective herbicide applications are management tools that can be used to maintain suitable habitat for targeted wildlife species

Consider over-seeding the border with legumes for plant diversity and wildlife benefits.

Schedule mowing, harvesting, and weed control to accommodate wildlife nesting needs and other special requirements or purposes.

Include native plants that provide diverse pollen and nectar sources to encourage local pollinator populations.

Rows of shrubs (Conservation Practice 380, Windbreak/Shelterbelt Establishment) adjacent to field borders will often enhance field borders ability to harbor beneficial insects, and may also provide additional wildlife benefits.

If installation or maintenance of the practice has potential of affecting cultural resources (archaeological, historic, historic landscape, or traditional cultural properties), follow NRCS state policy for considering cultural resources.

Consider vegetative cover that will enhance and provide multiple benefits to the producer's operation such as livestock forage, bedding areas, or seed production.

PLANS AND SPECIFICATIONS

Plans and specifications are to be prepared for the practice site. The following items should be specified. A job sheet is available to document these items:

- Border widths and lengths based on the practice specifications and local design criteria
- Location within the field or farm boundary
- Vegetation to be used
- Site preparation
- Planting method
- Liming or fertilizer requirements
- Operation and maintenance requirements

OPERATION AND MAINTENANCE

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

The following will be planned and applied as needed:

- Storm damage repair
- Sediment removal - when 6 inches of sediment have 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
- Maintenance activities that result in disturbance of vegetation should not be conducted during the nesting season of grass nesting birds
- Vegetative successional state shall be maintained to accommodate target wildlife species requirements
- Avoid vehicle traffic when soil moisture conditions are saturated