USDA NRCS
United States Department of Agriculture
Natural Resources Conservation Service

Contour Buffer Strips

Iowa Job Sheet

Natural Resources Conservation Service (NRCS)
Des Moines, Iowa

Iowa Conservation Practice 332
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Definition

Contour buffer strips are strips of perennial vegetation alternated down the slope with wider cultivated strips that are farmed on the contour. Contour buffers strips are usually narrower than the cultivated strips. Vegetation in strips consists of adapted species of grasses or a mixture of grasses and legumes.

Purpose

Contour buffer strips established on the contour can significantly reduce sheet and rill erosion. Strips slow runoff and trap sediment. Sediment, nutrients, pesticides, and other contaminants are removed from the runoff as they pass through the buffer strip. Buffer strips may also provide food and nesting cover for wildlife.

Where used

Contour buffer strips are used on cropland subject to sheet and rill erosion. They are most suitable on uniform slopes ranging from 4 to 8 percent but can be used on steeper sloping land. These narrow strips of permanent vegetation are not part of the normal crop rotation. Contour buffer strips are also an excellent filter for runoff and will help improve surface water quality. The practice is more difficult to establish on undulating to rolling topography because of the difficulty of maintaining parallel strip boundaries across the hill slope or staying within row grade limits.

Design and layout of variable width contour buffer strips eliminates point rows between buffer strips.

Requirements for establishing contour buffer strips include a minimum buffer strip width, with strips placed along the contour and farming operations that follow the approximate contour grade. Contour grass buffer strips may vary in width to accommodate an even cultivated strip width. Cultivated strip widths are determined by such variables as slope, soil type, field conditions, climate, and erosion potential. Cultivated strip widths may be up to 150 ft. wide. Buffer strips can be used as turn areas if care is taken to minimize disturbance to soil and vegetation. Waterways or diversions are needed where runoff collects and concentrated flow erosion is a problem. For reducing sheet and rill erosion, buffer strip width must be at least 15 feet for grasses or grass-legume mixtures (of greater than 50% sod forming grass) and at least 30 feet for legumes alone.

Resource management system

Contour buffer strips are normally established as part of a resource management system for a conservation management unit. They are concurrently applied with other practices, such as residue management, conservation crop rotation, and contour farming. Contour buffer strip widths are determined by such variables as slope, soil type, field conditions, climate, and erosion potential. Species to use for contour buffer strips depend on soil types, climate, and use by wildlife.

Wildlife

When planning for wildlife, adjust contour buffer strip widths and plant species to meet the needs of the target wildlife species. Increase widths to 30 feet or wider depending on the requirements for nesting and escape cover of the target wildlife species. Avoid mowing during nesting periods.

Operation and maintenance

Mow buffer strips to maintain appropriate vegetative density and height for trapping sediment. Do not mow buffer strips during critical erosion periods. Fertilize buffer strips according to soil test results. Spot seed or renovate buffer strip areas damaged by herbicides, equipment, or unusual rainfall events. Redistribute sediment accumulations as needed to maintain uniform sheet flow along the crop-strip boundary. Cultivated strips and buffer strips shall be rotated so that a mature stand of protective cover is achieved in a newly established buffer strip immediately below or above the old buffer strip before removing the old buffer to plant an erosion-prone crop.

Specifications

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. See practice standard Contour Buffer Strips, code 332.

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Contour Buffer Strip Job Specification Sheet

Name _____ **Farm #** _____ **Tract #** _____

Assisted by _____ **Field Office** _____ **Contract #** _____

Purpose *(check all that apply)*

- ☐ Reduce sheet and rill erosion
- ☐ Enhance wildlife (target species: _____)
- ☐ Reduce transport of sediment and other water-borne contaminants downslope, on-site or off-site

Layout	Strip 1	Strip 2	Strip 3	Strip 4
Cultivated strip width (feet)				
Buffer strip width (feet)				
Buffer strip length (feet)				
Area in buffer strip (acres)				

Plant Materials (species/cultivars) Or attach IA-CPA-4	Seeding Rate (lbs./acre of pure live seed or bulk lbs.)	Seeding Date
Strip 1:		
Strip 2:		
Strip 3:		
Strip 4:		

Soil Amendments and Fertilization	Strip 1	Strip 2	Strip 3	Strip 4
Lime (lbs./acre of ECCE)				
N Fertilizer (lbs./acre)				
P_2O Fertilizer (lbs./acre)				
K_2O Fertilizer (lbs./acre)				

Planning Requirements

Contour Buffer Strips shall be:

- » at least 15 feet wide for strips planted to grasses or grass-legume mixtures when sod forming grasses make up more than 50% of the stand or
- » at least 30 feet wide when legumes are used alone or sod forming grasses make up less than 50 % of the stand.

Soil loss for planned system should not exceed "T". Use approved NRCS erosion prediction technology.

The maximum row grade along the crop strip shall not exceed one-half of the up-and-down hill slope percent used for conservation planning, or 2%, whichever is less. Up to 3% row grade is allowed for a maximum of 150 feet as crop rows approach a stable outlet.

Operation and maintenance

Maintain original width and length of contour buffer strips. Harvest, mow, reseed, and fertilize as necessary to maintain plant density and vigorous plant growth. Inspect after major storms, remove trapped sediment, and repair eroding areas. Shut off pesticide sprayers when turning on a buffer strip.

Contour Buffer Strip Aerial Photo or Drawing