

NATURAL RESOURCES CONSERVATION SERVICE
MONTANA CONSERVATION PRACTICE SPECIFICATION

STRIPCROPPING (ACRE)

CODE 585

DEFINITION: Growing planned rotations of row crops, forages, small grains, or fallow in a systematic arrangement of equal width strips across a field.

PURPOSE: The purpose of the stripcropping practice is to reduce soil erosion from water and transport of sediment and other water-borne contaminants, to reduce soil erosion from wind, and to protect growing crops from damage by wind-borne soil particles.

Conservation Management System

Stripcropping is established as part of a conservation management system to address the soil, water, air, plant, animal, and human needs as related to the owner's goals and objectives. It is important to consider crop rotation, nutrient and pest management, climatic and geologic characteristics of the land and other supportive conservation practices when designing a stripcropping system.

General Criteria Applicable to All Purposes

Arrangement and Vegetative Conditions of Strips. Strips of crops susceptible to erosion shall be alternated with strips of erosion-resistant crops or cover. Refer to, FOTG, Section IV, Cover Crop (Code 340), Practice Specification, Table 1. Cover Crop for Erosion Control, for species selection. The orientation shall be at angles that are as close to perpendicular to water and wind erosion forces as practical.

Width of Strips. Erosion resistant and erosion susceptible strips will be equal in width. Strip widths should be multiples of the width of the planting equipment. The required width of strips shall be determined using currently approved erosion prediction technologies to achieve the planned erosion reduction (RUSLE2 or WEPS).

Vegetative Cover. Vegetation in a stripcropping arrangement consists of crops and/or forages grown in a planned rotation. At least 50 percent of the rotation shall consist of erosion resistant crops or sediment trapping cover. No two adjacent strips shall be in an erosion-susceptible condition at the same time during the year. However, two adjacent strips may be in erosion-resistant cover at the same time. Erosion-resistant strips shall be crops or crop residues that provide the needed protective cover during those periods when erosion is expected to occur.

Acceptable protective cover includes a growing crop; including grasses, legumes, or grass-legume mixtures, standing stubble, residue with enough surface cover to provide protection, or surface roughness sufficient to provide protection. A vegetative cover shall be selected that is tolerant of the anticipated depth of sediment deposition.

When the erosion-resistant strip is in permanent vegetation, the species established shall either be tolerant to herbicides used on the cropped strips or protected from damage by herbicides used on the cropped strips.

Acceptable cover is specified by each specific purpose that follows.

Additional Criteria to Reduce Soil Erosion from Water and Transport of Sediment and Other Water-borne Contaminants

Number of Strips. A stripcropping system shall consist of a minimum of two strips within the conservation planning slope length or "L".

Specification MT585-2

Alignment of Strips. Strip boundaries shall run parallel to each other and as close to the contour as practical.

Strip Width. Strip width shall be based on the planning objective and RUSLE2 and/or WEPS technology depending on site conditions. If a correction strip is required that strip may vary in width but shall be no narrower than the widest working field implement.

Minimum Row Grade. Row grades for soils with slow to very slow infiltration rates (soil hydrologic groups C or D), or for crops sensitive to ponded water conditions for periods of less than 48 hours, shall be designed with positive row drainage of not less than 0.2 percent on slopes where ponding is a concern.

Maximum Row Grade. The maximum grade of rows shall not exceed one-half of the up-and-down hill slope percent used for conservation planning or 10 percent, whichever is less. Up to 25 percent deviation from the design row grade is permitted within 150 feet of a stable outlet. In cases where row grade reaches the maximum allowable design grade, a new baseline shall be established up or down slope from the last contour line and used for layout of the next contour pattern.

Additional Criteria to Reduce Soil Erosion from Wind

Number of Strips. The stripcropping system will consist of two or more strips within the simulation area.

Alignment of Strips. Strip boundaries shall run parallel to each other. Strips should be designed as close to perpendicular to the prevailing wind erosion direction as practical for best results.

Orientation. Strips shall be oriented as close as possible to perpendicular to the prevailing wind erosion direction as practical.

Width of the Strips. The strip width is determined using the most current erosion prediction technology (WEPS). Calculations will include the effects of all other practices in the conservation system. The effective width of strip is measured along the prevailing wind erosion direction for those design periods when wind erosion is expected to occur.

The design width shall be correspondingly adjusted when orientation deviates from perpendicular to prevailing winds.

Additional Criteria to Protect Growing Crops from Damage by Wind-borne Soil Particles

Strip Width. The effective width of strip is measured along the prevailing wind erosion direction for those periods when wind sensitive crops are susceptible to damage by wind-borne particles. The design strip width will not exceed the width permitted by the crop tolerance to wind erosion during specific crop stage periods, based on the current wind erosion prediction technology. The design width shall be correspondingly adjusted when orientation deviates from perpendicular to prevailing winds. Refer to the National Agronomy Manual, Fourth Edition – 190-V-NAM, Table 502-1, Crop Tolerances to Blowing Soil.

Number of Strips. The stripcropping system will consist of a minimum of two strips within the simulation area.

Alignment and Orientation of Strips. Strip boundaries shall run parallel to each other. Strips should be designed as close to perpendicular to the prevailing wind erosion direction as practical for best results.

CONSIDERATIONS:

Stripcropping may be used in combination with other conservation practices to meet the goals of the resource management system.

Consider crop rotations that improve crop diversity and include at least three species from different families.

Wildlife benefits can be enhanced by delaying mowing on sod turn–strips until after the nesting season (April 15 – August 1).

Plans and Specifications

A stripcropping establishment plan shall include the following information:

- 1. Location map – map with field numbers and number of acres of the strips to be established.**
- 2. Soils map with map unit information.**
- 3. Before and after soil loss prediction documentation.**
- 4. Amount (percent) of soil surface cover required to meet objectives.**
- 5. Placement of stable outlets (if applicable).**
- 6. The Stripcropping (Code 585) Specification and Job Sheet.**
- 7. Specifications of other applicable standards where required for establishment of this practice.**

OPERATION AND MAINTENANCE:

Perform all tillage and planting operations parallel to the contour baselines maintaining established strip widths provided the applicable row grade criteria are met. Where field operations begin to converge between two non-parallel contour strips, establish a correction line or area that is either permanent sod, or established to an annual close-grown crop. Where contour strips become too sharp to keep machinery aligned with rows during field operations, establish sod turn strips on sharp ridge point or other odd areas. Renovate field borders as needed to maintain at least 65 percent ground cover. Damaged area should be repaired and or revegetated. Sediment accumulations should be redistributed as needed to maintain uniform sheet flow through the strip width.