

**NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE STANDARD**

CONTOUR STRIPCROPPING

(Acre)
CODE 585

DEFINITION

Growing crops in a systematic arrangement of strips or bands on the contour to reduce water erosion. The crops are arranged so that a strip of grass or close-growing crop is alternated with a strip of clean-tilled crop or fallow or a strip of grass is alternated with a close-growing crop.

PURPOSE

To reduce erosion and control water.

CONDITIONS WHERE PRACTICE APPLIES

On sloping cropland and on certain recreation and wildlife land where the topography is uniform enough to permit tilling and harvesting, and where it is an essential part of a cropping system to effectively reduce soil and water losses.

This practice is unsuitable on undulating to rolling topography because of the difficulty of maintaining parallel strip boundaries across the hill slope and/or staying within in-row grade limits. It is most suitable on uniform slopes with slope lengths (L) equal to or less than the Critical Slope Length Limits as determined using the RUSLE "P" factor procedure.

The effect on erosion reduction for this practice is reduced on fields where slope lengths (L) exceeds the Critical Slope

Length limits for contouring by 1.5 times, unless the slope length (L) is shortened by the installation of other practices such as terraces.

This practice is most effective on flatter slopes (2-12 percent) but can reduce sheet and rill erosion on steeper slopes. Effectiveness of this practice is a function of soil texture, land slope, effective ridge height, and Cover-Management Condition.

This standard does not apply to situations where the width of alternating strips are not generally equal in width or where the land is treated with Contour Buffer Strips (332).

CRITERIA

General Criteria Applicable To All Purposes.

NOTE: *Specific program guidance may be more restrictive on a number of these criteria. Refer to program manual for specific program requirements.*

A. Row Grade, Strip Boundaries, and Baseline:

The in-row grade of the contour strip shall align as closely as practical to the contour to achieve the greatest erosion reduction possible. The maximum in-row grade of the contour strips shall not exceed the lesser of one-half of the up and down hill field slope or two percent.

<p>Conservation practice standards are reviewed periodically, and updated if needed. To obtain the current version of this standard, contact the Natural Resources Conservation Service.</p>
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For crops sensitive to ponded water for periods less than 48 hours and/or on soils classified as somewhat poorly drained, poorly drained, or very poorly drained, design a positive in-row grade of not less than 0.5 percent sloping toward a stable outlet.

In-row grade up to three percent is permitted for a maximum of 150 feet as crop rows approach a stable outlet.

When the grade of any contour strip reaches the maximum allowable design grade, a new baseline shall be established up or down slope from the last contour strip and used for the layout of the next contour strip(s). A baseline is a contour line laid out to establish the pattern for adjacent contour strips.

B. Critical Slope Length Limits:

The critical slope length limits for the contour buffer strip system is 1.5 times the critical slope length limits determined for contour farming under RUSLE.

C. Field Borders:

Establish and maintain field borders in perennial herbaceous vegetative cover when concentrated water flows will develop or where up and down hill farming of end rows will result in a soil loss exceeding tolerable soil loss levels. Field borders shall be sufficient width to accommodate turning farm equipment without additional end rows. Refer to Field Border (386) for installation.

D. Stable Outlets:

Surface flow from contoured crop rows must flow to a stable outlet. Stable outlets include grassed waterways, field borders, underground outlets for terraces or diversions, water and sediment control basins, or similarly stabilized areas.

E. Arrangement of Strips:

Contour strips shall be an alternating pattern down the slope with equal or near equal width strips of perennial legumes, grass-legume mixtures, grasses or small grain crops alternated with cropped strips that are typically planted in tilled seedbeds (included annual crops planted in rows or drilled).

When used in combination with terraces, the layout of contour strips shall be coordinated with the grade and spacing of the terraces so that strip boundaries will parallel terraces wherever possible.

F. Width of Strips:

Contour strip widths shall be of uniform width and not exceed that listed in the table below.

% Land Slope	Cropped Strip Width
1-2 %	130 ft
3-5 %	100 ft
6-8 %	100 ft
9-15 %	80 ft
16-20 %	60 ft
> 21 %	50 ft

Cropped strip widths shall be adjusted downward to accommodate equipment widths.

CONSIDERATIONS

Protect areas of existing or potential concentrated flow erosion with one or more conservation practices such as grassed waterways, field borders, water and sediment control basins, terraces, or diversion terraces.

Design and install the contour strip layout to best facilitate operation of all machinery used on the strips. Whenever possible, layout contour strips to have multiples of full implement widths used for the farming

operation and an even number of trips across the field. Where adjustments are required to maintain in-row grade within design limitations, install odd area correction strips. Keep these adjustment areas to a minimum by adjusting the entire field layout.

Remove obstructions or make changes in field boundaries or shape to improve the effectiveness of the practice and the ease of performing farming operations, where feasible and within policy constraints for wetlands, cultural resources, etc.

To begin layout, inspect the field's position on the landscape to find key points for commencing layout or getting a width of one-half strip or more to pass by an obstruction or a ridge saddle. Account for uncropped field roads or similar other features in the layout. See Agronomy Technical Note #16; Contour Strip-Cropping Planning and Layout Guide.

Where contour strip row curvature becomes too sharp, establish sod turn strips on ridge points. In drainage ways establish grassed waterways for turning as well as protecting soil from erosion due to runoff of concentrated water flow. Turn strips shall be wide enough to allow the equipment to be lifted, turned, and aligned with the same rows across the strip.

Select adapted varieties of perennial crop species for persistence of stands as desired in the planned crop rotation.

Review herbicide program to determine if chemical carryover is a problem for the establishment of small grain or close grown crops such as legumes and grasses.

PLANS AND SPECIFICATIONS

Specifications for installation, operation, and maintenance of Contour Strip Cropping shall be prepared for each field according to the Criteria, Considerations, and Operations and Maintenance

described in this standard, and shall be incorporated into narrative statements in conservation plans, or recorded on specification job sheets.

OPERATIONS AND MAINTENANCE

Conduct all farming operations parallel to the strip boundaries except on headlands or end rows with gradients less than the criteria set forth in this standard.

Where contour row curvature becomes too sharp to keep equipment aligned with rows during field operations, establish sod turn strips on sharp ridge points. In drainageways, establish grassed waterways at least to the point of sharp curvature. These strips shall be wide enough to allow the equipment to be lifted and/or turned and meet the same rows across the turn strip.

Follow the planned crop rotation to rotate perennial crop strips with annual crop strips. Rotation of crops is the key to making contour strip cropping system effective for both crop production and erosion reduction.

Manage perennial crops in rotation using principals contained in Forage Harvest Management (511), Nutrient Management (590), and Pest Management (595) to promote longevity of stands as desired in the planned crop rotation.

Manage pesticide applications to avoid overlap and/or drift onto adjacent rotation hay strips, waterways and turn strips.

REFERENCES

Predicting Soil Erosion by Water: A Guide to Conservation Planning With the Revised Universal Soil Loss Equation (RUSLE); Agricultural Handbook Number 703.

Agronomy Technical Note #16; Contour Strip-Cropping Planning and Layout Guide.