

## Stripcropping, Contour (acre)

### 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.

### Planning considerations

#### Water Quantity

1. Effects on the water budget, especially on volumes and rates of runoff, infiltration, evaporation, transpiration, deep percolation and ground water recharge.
2. Variability of effects caused by seasonal weather variations.
3. Potential for a change in plant growth and transpiration because of changes in the volume of soil water.

#### Water Quality

1. Filtering effects of vegetation on movement of sediment and dissolved and sediment-attached substances.
2. Effects on erosion and the movement of sediment, pathogens, and soluble and sediment-attached substances that could be carried by runoff.
3. Potential for development of saline seeps or other salinity problems resulting from increased infiltration near restrictive layers.
4. Effects on the visual quality of downstream water resources.

#### Specifications guide

Specify width of strip, based on percentage of slope, and allowable deviation from the contour or specified grade and row length.

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U.S. DEPARTMENT OF AGRICULTURE  
Soil Conservation Service

Technical Guide  
Section IV  
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STRIPCROPPING, CONTOUR (Acre)

Specifications Guide

A. Cropping Systems and Management

1. The cropping systems on cropland will conform to those set up in the Technical Guide. On wildlife land, annuals may be substituted for the cultivated crop in the cropping systems, and perennial grasses or legumes in the soil conserving strip.
2. All major depressions, field borders, and other areas needed for the disposal of runoff water will be established in perennial vegetation. For flat planted crops, strips may be installed prior to the establishment of adequate outlets, if the strips will facilitate outlet establishment by reducing runoff and velocity, provided adequate outlets are installed the following year.
3. The number and width of grass strips (soil conserving) must be equal to, or greater than, the cultivated strips. For the best utilization as wildlife land, the strips of annuals and perennials may be narrower than strip widths used on cropland.
4. All land preparation, planting and tillage operations will follow the strip guidelines.
5. The crop residue must be left on the land over winter, or winter cover crop established, or necessary protective tillage operations be carried out on land devoted to row crops. Double cropping behind small grain is permitted provided that specifications for conservation tillage are followed.
6. All crops should be properly limed and fertilized. Current recommendations of the North Carolina Agriculture Research Service for liming and fertilizing will be used as applicable.

B. Strip and Row Grades

1. All grades should be as nearly level as practical.
  - a. A continuous grade of 2% is allowable for distances not to exceed 100 feet in either direction.

- b. A 3% grade is allowable at critical points for distances up to 50 feet, except at the outlet.
2. Effort should be made to plan more intensive treatment for areas where excessive grades will occur due to abrupt changes in topography. Where it is not practical to separate these areas, sound judgment should be used in planning the best system that is within practical limits.

### C. Strip Widths

1. Strip widths will be designed considering the soil's topography, allowable soil loss, crops to be grown, cropping systems, farm machinery to be used, and other conservation practices applied or to be applied.
2. Use parallel strips where practical.
3. When terraces or diversions are applied or are to be applied, at least one-half of the terrace or diversion interval must be in grass or close growing crops.
4. Strips may be used on fields without terraces or diversions; however, diversions or terraces shall be used when needed to reduce slope lengths.

Maximum strip widths for fields without terraces will be as shown in Table A. Upward adjustments of 10 percent may be made to fit row pattern or equipment used.

**Table A**

<u>Slope Group (Percent)</u>	<u>Maximum Strip Width (Feet)</u>
1 - 2	130
3 - 8	100
9 - 16	80
17 - 20	60
21 - 25	50

The table below may be useful when planning a stripcropping system. When size of planter and row width have been obtained, the table will show number of rows that can be planted in a selected strip width. Generally, 1 or 2 feet should be added to minimum strip width as shown below for any planting error.

Table B

Row Width (In.)	Number of Rows in Strip																		
	16	20	22	24	26	27	28	30	32	34	36	38	39	40	48	50	60	65	70
20	27	34	37	40	44	45	47	50	54	57	60	64	65	67	80	84	100	109	117
24	32	40	44	48	52	54	56	60	64	68	72	76	78	80	96	100	120		
30	40	50	55	60	65	68	70	75	80	85	90	95	98	100	120				
36	48	60	66	72	78	81	84	90	96	102	108	113	117	120					
40	54	67	74	80	87	90	94	100	107	114	120								

----- Strip Width in Feet -----

Example: Using Table A, determine the maximum strip width for the average slope. By using the producer's planter size, row width and maximum strip width allowable, consult Table B to determine number of rows that can be planted in different strip widths.

Follow the row width line to the right until you come to an agreeable strip width within tolerance, then move up the table to locate the number of rows that can be planted. If number of rows does not fit planter size, adjustment of rows and strip width is needed.

Interpolate as needed for different row widths and number of rows in strip.

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**STRIPCROPPING, CONTOUR - ENGINEERING NOTEKEEPING**

**Design Surveys and Layout**

- A. Record the following layout and design information:
1. Location sketch.
  2. Number of grass and row crop strips in system.
  3. Maximum horizontal interval in system.
  4. General direction of strips and area in acres.
  5. Needed waterways or outlets.
- B. Show location of needed waterways or outlets.

**Construction Check**

- A. Record the following construction check information.
1. Grade check will be made of one strip in each system.
  2. Record area stripcropped in acres.
  3. Statement as to adequacy of outlets.
  4. Statement of compliance with plans and specifications.
  5. Date and signature.

**Recording Data**

Design survey, layout, and construction check information will be recorded in a standard engineering field book, approved standard form, or SCS-CONS-68.