

**NATURAL RESOURCES CONSERVATION SERVICE  
NEW JERSEY CONSERVATION PRACTICE STANDARD**

**STRIPCROPPING**

(Ac.)

**CODE 585**

**DEFINITION**

Growing planned rotations of erosion-resistant and erosion susceptible crops or fallow in a systematic arrangement of strips across a field.

**PURPOSE**

This practice supports one or more of the following purposes:

- **Reduce water erosion** – *Resource Concern (SOIL EROSION - Sheet, rill, & wind erosion )*
- **Reduce wind erosion** – *Resource Concern (SOIL EROSION - Sheet, rill, & wind erosion)*
- **Reduce the transport of sediment and other water and wind borne contaminants** – *Resource Concerns (Excess nutrients in surface and ground waters and WATER QUALITY DEGRADATION – Pesticides transported to surface and ground waters)*
- **Protect growing crops from damage by wind-borne soil particles** – *Resource Concern (DEGRADED PLANT CONDITION – Undesirable plant productivity and health )*

**CONDITIONS WHERE PRACTICE APPLIES**

This practice applies on cropland.

**CRITERIA**

**General Criteria Applicable to All Purposes**

**Arrangement and Vegetative Condition of Strips.** Alternate strips of erosion susceptible

crops with strips of erosion resistant crops or cover. Orient the strips to be as close a practical to perpendicular to the critical wind and water erosion vectors.

**Strip Width.** Determine the needed width of the strips using current erosion prediction tools. Account for all other practices in the conservation management system when using erosion prediction tools. Design the width of the strips in multiples of the equipment that will be used on the stripped field.

**Vegetative Cover.** Include crops, forage, specialty crops, or covers in the planned rotation. Erosion resistant crops or sediment trapping crops will make up at least 50% of the crops planted in any one year of the rotation. Any vegetation that will reduce soil erosion to the planned conservation objective can be considered to be erosion resistant. Do not allow two erosion susceptible strips to be next to one another during the same time of the year. Two adjacent strips may be in erosion-resistant cover at the same time.

An erosion resistant strip generally consists of dense grasses and/or legumes, hay crops nearing the end of the first year, or row crops with surface cover greater than 75 percent during the time period when erosion potential is the greatest.

The designed crop rotation shall be followed on each adjacent strip while the point or year in the sequence of the rotation is staggered or offset to achieve the desired conservation planning objective.

Select vegetative covers that will tolerate the anticipated depth of sediment deposition.

**Stable Outlets** Establish stable outlets where runoff from the strips

Conservation practice standards are reviewed periodically and updated if needed. To obtain the current version of this standard, contact your Natural Resources Conservation Service [State Office](#) or visit the [Field Office Technical Guide](#).

**NRCS NJ FOTG  
December 2014**

are expected to result in gully erosion.

Acceptable cover is specified by each specific purpose as stated below.

**Additional Criteria to Reduce Water Erosion and Associated Transport of Sediment and Other Water-borne Contaminants**

**Number of Strips.** At least two strips will be planned within the planning slope length.

**Alignment of Strips.** Run strip boundaries parallel to each other and as close of the contour as possible.

**Strip Width.** The critical slope length for contouring is the maximum width allowed for a strip.

Correction strips cannot be narrower than the widest piece of machinery that will be used on the strip.

Where field contours become too sharp to keep machinery aligned with the contour during field operations, establish sod turn-strips on sharp ridge points and or valleys. 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.

**Minimum Row Grade.** If the soils are in hydrologic groups C or D or if crops will be planted that are sensitive to ponded water conditions for less than 48 hours, design the row drainage to be at least 0.2 percent in areas of concern.

**Maximum Row Grade** Do not exceed a maximum row grade of one-half of the up-and-down hill slope percent used for conservation planning, or 4%, whichever is less.

Up to a 25% deviation from the design row grade is permitted within 150 feet of a stable outlet.

Establish a new baseline for the strips when the row grade reaches the maximum allowable design grade. Design all subsequent strips from the new baseline until another adjustment needs to be made.

**Headlands/End Rows:** If headlands/end rows are used for a field where crops and tillage are part of the rotation, and the headlands/end rows have a slope steeper than the maximum

allowable row grade, maintain the headlands/end rows in permanent sod.

**Additional Criteria to Reduce Wind Erosion and Associated Transport of Sediment and Other Wind Borne Contaminants**

**Number of Strips** At least two strips will be planned within the entire area prone to wind erosion.

**Alignment of Strips.** Strips will be parallel to each other.

**Orientation.** Orient the strips to be as close a practical to be perpendicular to the direction of the critical wind erosion for the susceptible period.

**Width of Strips.** The effective width of strips shall be measured along the prevailing wind erosion direction for those periods when wind erosion is expected to occur and for which the system is designed.

When the orientation of erosion-susceptible strips deviates from perpendicular to the prevailing wind erosion direction, adjust the width of these strips using current wind erosion prediction technology.

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

**Strip width.** The effective width shall be measured along the prevailing wind erosion direction during those periods when sensitive crops are susceptible to damage by wind-borne soil particles.

Do not exceed the width permitted by the crop tolerance to wind erosion during specific crop stage periods, using current wind and erosion prediction technology. Refer to the crop tolerances to wind in the National Agronomy Manual, other accepted technical references, or other planned crop protection objectives.

When the orientation of erosion-susceptible strips deviates from perpendicular to the prevailing wind erosion direction, adjust the width of these strips using current wind erosion prediction technology.

**Number of Strips.** At least two strips will be planned within the entire area prone to wind erosion.

**Alignment of Strips.** Strips will be parallel to each other.

**Orientation of Strips:** Orient the strips to be as close a practical to be perpendicular to the direction of the critical wind erosion for the susceptible period.

## CONSIDERATIONS

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

To improve cropping system diversity and associated benefits, consider a crop rotation at least three years in length including at least three crop species from different plant families.

Wildlife benefits can be enhanced by selecting species and management practices that provide habitat for pollinators, wildlife, and or desired organisms.

Consider delaying mowing on sod turn-strips until after the nesting season of April 1<sup>st</sup> to July 15<sup>th</sup>.

To capture and manage soil moisture, select crops, crop sequence, and varieties with sufficient density and cover to intercept runoff and/or blowing snow. Manage the height of standing residues to maximize snow trapping potential,

Stripcropping can reduce airborne particulate matter (PM) emissions.

The conservation crop rotation on stripcropped fields should be consistent with the farm enterprise crop mix and/or associated livestock operation. These will influence the proportion of row crops, close growing crops, specialty crops, cover crops, and grass/legume forage crops.

Prior to design and layout, obstruction removal or changes in field boundaries or shape should be considered, where feasible, to improve the effectiveness of the practice and the ease of performing field operations across the slope.

Prior to layout, inspect the field to find key points for commencing layout or getting a full strip width to pass by an obstruction or ridge saddle. Whenever possible, run the strip boundary parallel with fence lines or other

barriers, as long as row gradient criteria are met. Account for access road widths when they must cross the field, and adjust the strip boundary on either side accordingly.

When this practice is used in combination with diversions or terraces coordinate the strip layout with the diversion or terrace grade and spacing so that strip boundaries will parallel terraces wherever possible within the criteria for row grade. Where grass-back or narrow-base terraces are used, allow for the uncropped width along the terrace so that the same strip width is maintained for all strips in the field.

Stable outlets may be necessary where runoff results in concentrated flow erosion.

Acceptable stable outlets include grassed waterways, field borders, filter strips, water and sediment control basins, or underground outlets for terraces and diversions.

When the erosion-resistant strip is living vegetation, the species established on non-organic operations, should either be tolerant to herbicides used on the cropped strips or protected from damage by herbicides used on the cropped strips

## PLANS AND SPECIFICATIONS

Specifications for installation and maintenance of Stripcropping shall be prepared for each field or treatment unit according to the Criteria described in this standard.

Specifications pertaining to implementation shall be recorded on Implementation Requirements documents.

## OPERATION AND MAINTENANCE

Sediment accumulations along strip edges shall be smoothed or removed and distributed over the field as necessary to maintain practice effectiveness.

Mow sod turn-strips at least once a year. Harvesting is optional.

Erosion-resistant strips in rotation shall be managed to maintain the planned vegetative cover and surface roughness.

If the strip alignment is lost due to adjacent strips being in hay or permanent cover, the

original strip alignment and width will be re-established as needed.

## REFERENCES

Foster, G.R. 2004. Draft reference guide, Revised Universal Soil Loss Equation Version 2, (RUSLE2). National Sedimentation Laboratory, Oxford, MS.

Foster, G.R. 2005. Draft science documentation, Revised Universal Soil Loss Equation Version 2, (RUSLE2). National Sedimentation Laboratory, Oxford, MS.

Renard, K.G., G.R. Foster, G.A. Weesies, D.K. McCool, and D.C. Yoder, Coordinators. 1997. Predicting soil erosion by water: A guide to

conservation planning with the Revised Universal Soil Loss Equation (RUSLE). U.S. Department of Agriculture, Agriculture Handbook No. 703.

USDA, ARS. 2006. The wind erosion prediction system, (WEPS ver. 1.2.9), User Manual, 2011 Wind Erosion Research Unit, Manhattan, Kans.

USDA-AMS National Organic Program Final Rule 7 CFR Part 205.

<http://www.ams.usda.gov/AMSV1.0/nop>

USDA-AMS National Organic Program National List of Allowed and prohibited Substances.

<http://www.ams.usda.gov/AMSV1.0/nop>