

**NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE STANDARD AND SPECIFICATIONS**

CROSS WIND TRAP STRIP

(Feet)
CODE 589C

DEFINITION

Herbaceous cover resistant to wind erosion established in one or more strips across the prevailing wind erosion direction.

PURPOSES

This practice may be applied as part of a conservation management system to support one or more of the following:

- Reduce soil erosion from wind.
- Induce deposition and reduce transport of wind-borne sediment and sediment-borne contaminants downwind.
- Protect growing crops from damage by wind-borne soil particles.
- Provide food and cover for wildlife.

CONDITIONS WHERE PRACTICE APPLIES

This practice applies to cropland or other land where crops are grown.

CRITERIA

General Criteria Applicable to All Purposes

a. Number of Strips:

A cross wind trap strip system will consist of at least two strips.

b. Width of Trap Strips:

Trap strips will be wide enough to trap saltating soil particles and store wind-borne sediments originating upwind.

The width of the trap strip will be at least 15 feet when vegetation or stubble in the strip will normally be one foot or more in height during

periods when wind erosion is expected to occur.

The minimum width of the trap strip will be at least 25 feet when the effective height of the vegetation or stubble in the strip will normally be less than one foot during periods when wind erosion is expected to occur.

c. Vegetative Cover:

Trap strips may consist of perennial or annual plants, growing or dead. Plant materials will be selected for the following characteristics:

- 1) adaptation to the site,
- 2) erect during the wind erosion periods, and
- 3) tolerant to sediment deposition.

The establishment of perennial herbaceous vegetation will be based on the CRITICAL AREA PLANTING (342) conservation practice standard in the Field Office Technical Guide. The establishment of annual herbaceous vegetation will be based on the COVER AND GREEN MANURE CROP (340) conservation practice standard. Refer to locally developed University Outreach and Extension agronomy guides for adapted variety information and management recommendations.

Additional Criteria to Reduce Soil Erosion from Wind

a. Location of Trap Strips:

Trap strips established for this purpose will be located as follows:

- 1) At the windward edge of fields; or
- 2) Immediately upwind from areas within fields to be protected from erosion or deposition; or

Conservation practice standards are reviewed periodically. To obtain a current version of this standard contact the Natural Resources Conservation Service.

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- 3) In recurring patterns interspersed between erosion-susceptible strips.

- b. Direction and width of Erosion-susceptible Strips:

When trap strips are installed in patterns alternated with erosion-susceptible crop strips and the direction of the strips deviates from perpendicular to the prevailing wind erosion direction, the width of the erosion-susceptible strips will be correspondingly reduced.

The effective width of strips will be measured along the prevailing wind erosion direction during those periods when wind erosion is expected to occur. The effective width will not exceed the width permitted by the planned soil loss objective.

The width of strips will be determined using current approved wind erosion prediction technology. Calculations will account for the effects of other practices in the conservation management system

Additional Criteria to Induce Deposition and Reduce Transport of Wind-borne Sediment and Sediment-borne Contaminants Downwind

Location of Trap Strips:

The trap strips will be established immediately upwind from areas to be protected from sediment deposition. There will be no erosion-exposed area located between the trap strip and the area to be protected from sediment deposition.

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

- a. Placement of Trap Strips:

Trap strips will be established immediately upwind from areas used for sensitive crops. There will be no erosion-exposed area located between the trap strip and the crop to be protected.

- b. Direction and Width of Strips of Sensitive Crops

Where trap strips are installed in patterns alternated with strips of crops susceptible to damage by wind-borne soil particles and the direction of strips deviates from perpendicular to the prevailing wind erosion direction, the width of strips planted to sensitive crops shall be correspondingly reduced.

The effective width of strips will be measured along the prevailing wind erosion direction during those periods when sensitive crops are susceptible to damage by wind-borne soil particles. The width of strips will not exceed the width permitted by the crop tolerance to wind erosion as specified in applicable Field Office Technical Guide or other planned crop protection objective. Crop tolerance to wind erosion is the maximum rate of soil blowing that the plants can tolerate without significant plant damage due to abrasion, burial, or desiccation.

The width of strips will be determined using current approved wind erosion prediction technology to estimate wind erosion during specific crop stage periods. Calculations will account for the effects of other practices in the conservation management system.

Additional Criteria to Provide Food and Cover for Wildlife

- a. Vegetative Cover:

Trap strips will consist of vegetation that provides food and/or cover for targeted wildlife species.

- c. Trap Strip Height:

The minimum height of trap strips designed for this purpose will have a minimum expected height that provides adequate cover for targeted wildlife species.

CONSIDERATIONS

The effectiveness of this practice is maximized when the strips are oriented as close to perpendicular as possible to the prevailing wind erosion direction for the period for which the system is designed.

Selection of plants for use in trap strips should favor species or varieties tolerant to herbicides used on adjacent crops or other land uses.

Give special consideration to species that may also benefit wildlife such as native grasses; wildlife-friendly introduced grasses such as redbud, orchardgrass, and timothy; and legumes.

When trap strips are designed to enhance wildlife habitat, plant species diversity and complexity within the strip should be encouraged. Trap strips that result in multiple structural levels of vegetation will maximize wildlife use.

Some plants are damaged by blowing wind as well as by wind-borne sediment. In some cases, the spacing between trap strips may have to be reduced from that obtained using wind erosion prediction technology.

Drifting snow or grazing may reduce the trapping capacity of these strips. In such cases, other conservation practices, including the residue management practices, HERBACEOUS WIND BARRIERS (422A), etc., may be used with or as an alternative to trap strips to achieve the conservation objective.

PLANS AND SPECIFICATIONS

Site specification for establishment and maintenance of this practice will be prepared for each field or treatment unit according to the Criteria, Considerations, and Operation and Maintenance described in this standard.

Site specifications will be recorded using approved specification sheets, job sheets, narrative statements in the conservation plan, or other acceptable documentation.

OPERATION AND MAINTENANCE

After establishment, perennial trap strips will be fertilized as needed to maintain plant vigor. Weeds will be controlled.

Mowing and grazing of trap strips will be managed to allow regrowth to the planned height before periods when wind erosion or crop damage is expected to occur.

Wind-borne sediment accumulated in trap strips will be removed and distributed over the surface of the field as determined appropriate.

Trap strips will be re-established or relocated as needed to maintain plant density and height.

When trap strips are designed to enhance wildlife habitat, the strips will not be mowed or clipped unless their height and width exceeds that required to obtain the wildlife objective or they become competitive with the adjoining land use. When mowing or clipping is necessary, it will be completed only during the non-nesting season.