

**NATURAL RESOURCES CONSERVATION SERVICE  
CONSERVATION PRACTICE SPECIFICATIONS**

**CROSS WIND TRAP STRIPS**

(Ac.)

Code 589C

**GENERAL SPECIFICATIONS:**

The following general specifications are provided as general guidance to ensure proper implementation of this practice to meet planned objectives.

**1. Orientation** - Trap strips will be oriented according to the planned layout and design. The strip(s) orientation will be laid out perpendicular to the prevailing/predominant damaging wind direction.

**2. Trap Strip Width** - The width of the trap strip shall be at least 15 feet, when vegetation or stubble in the strip will normally be one foot or more in height. The width shall 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 erosion is expected to occur.

**3. Vegetation** - Trap strips vegetation may consist of annual or perennial plants, growing or dead. Plants shall be selected for the following characteristics from **Table 1 Plant Characteristics:**

- Adaptation to the site.
- Erect during wind erosion periods. Choose plants that have an erect shape. The ideal plant would be one that is tall, dense in winter and summer. Plants should have an Erect or Semi-Erect shape. They should also have a Dense or Moderately dense growth habit for summer.

- Tolerant to sediment deposition.

Selection of plants for use in trap strips shall favor species or varieties tolerant to herbicides used on adjacent crops or other land uses, and resistant to plant pest found in the adjacent crops.

Native plants will be the first choice. There will be at least two species in all plantings.

**Reducing Soil Erosion from Wind:**

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

- At the windward edge of fields; or
- Immediately upwind from areas within fields to be protected from erosion or deposition; or
- In recurring patterns interspersed between erosion susceptible strips.

The effective width of strips shall be measured along the prevailing erosive wind direction.

The distance (L) between trap strips will be established using the current approved wind erosion technology. The soil loss criteria can be T or some other goal. L must equal some common width of the farm machinery, or be a multiple of that width.

**Inducing Deposition and Reducing Wind-Borne Sediment/Contaminants:**

- There shall be no erosion exposed area located between the trap strip and the area to be protected from sediment deposition.

Table 1 Plant Characteristics:

Plant Characteristics									
Name	Seed/lbs	Ave Pure	Ave Germ	Seeds/ft <sup>2</sup> /1lbs/ac	Native (N)	Max Ht (ft)	Porosity <sup>1</sup> Winter	Porosity <sup>1</sup> Summer	Shape <sup>2</sup>
Alfalfa	225,000	99	85	5.2		4	P	M	E
Big Bluestem	917,000	90	70	21.0	N	6	P	D	E
Big Trefoil	828,000	98	47	23.0		8	P	M	D
Birdsfoot Trefoil	418,000	98	47	9.6		3	P	M	D
Blue Grama	1,335,000	40	60	31.0	N	1	P	M	E
Buffalo Grass	42,000	88	45	0.5	N	0.5	P	P	D
Bush Muhly	1,500,000	50	40	38.0	N	2.8	M	D	D
Cicer Milkvetch	122,000	90	40	2.8		3	P	D	D
Crested Wheatgrass	200,000	95	85	4.6		2	P	M	E
Fourwing Saltbush	30,000	80	50	1.1	N	4	M	M	SE
Galleta	159,000	69	80	3.7	N	2	P	M	E
Green Needlegrass	181,000	90	85	4.2		2	P	D	E
Indiangrass	175,000	89	53	4.0	N	6	P	D	E
Intermediate Wheatgrass	100,000	90	75	2.4		4	P	D	E
Lehmann Lovegrass	4,245,000	90	60	99.0		2	M	D	SE
Little Bluestem	379,000	90	80	8.7	N	3	P	D	E
Meadow Brome	100,000	92	85	2.4		4	P	D	E
Mountain Brome	90,000	90	85	1.6	N	4	P	M	E
Perennial Ryegrass	247,000	98	90	5.7		2.3	P	D	E
Plains Bristlegrass	293,000	90	80	7.0	N	3	P	D	E
Pubescent Wheatgrass	91,000	90	85	2.0		5	P	D	E
Rocky Mountain Penstemon	280,000	93	79	6.4	N	2	P	P	E
Sand Bluestem	125,000	70	69	2.9	N	6	P	M	E
Sand Dropseed	5,298,000	95	90	121.6		2	P	P	E
Sand Lovegrass	1,550,000	93	75	35.6		3.5	P	D	E
Sideoats Grama	143,000	60	50	3.3	N	3	P	D	E
Slender Wheatgrass	160,000	90	85	3.7		3	P	D	E
Small Burnet	42,000	90	85	1.0		1.25	P	M	E
Spike Muhly	1,635,000	50	50	38.0	N	2	P	M	E
Streambank Wheatgrass	170,000	97	92	3.6		4	P	D	E
Sweetclover	262,000	99	85	6.0		5	P	P	E
Switchgrass	278,000	95	62	6.4	N	5	D	D	E
Tall Wheatgrass	79,000	95	85	1.8		6	P	D	E
Vine Mesquite	143,000	50	30	3.3	N	2	P	M	E
Weeping Lovegrass	1,463,000	90	90	34.0		3	P	D	E
Western Wheatgrass	110,000	85	60	2.5		2	P	M	SE
White Clover	800,000	99	85	18.0		2	M	M	P
Winterfat	150,000	52	80	3.3	N	2	M	M	E
Yellow Bluestem	475,000	60	70	10.9		2	P	D	SE

<sup>1</sup>Note: For Porosity - D = Dense growth, M = Moderately dense growth, & P = Porous

<sup>2</sup>Note: For Shape - D = Decumbent (prostrate and turned up on the ends), E = Erect, P = Prostrate, & SE = Semi-Erect.

**TABLE 2 - Crop Tolerances\* to Blowing Soil**  
 (\*From seedling emergence to field stabilization)

Tolerant T	Mod. Tolerance 3 t/ac	Low Tolerance 2 t/ac	Very Low Tolerance 0 - 0.5 t/ac
Barley	Corn	Alfalfa	Alfalfa Seedlings
Buckwheat	Cotton	Broccoli	Asparagus
Flax	Cucumbers	Cabbage	Carrots
Grain Sorghum	Onions (>21 days)	Lima Beans	Celery
Millet	Orchard Crops	Peas	Eggplant
Oats	Soybeans	Potatoes	Lettuce
Rye	Sunflowers	Snap Beans	Muskmelons
Wheat	Sweet Corn	Sweet Potatoes	Onion seedlings (<21 days)
			Peppers
			Spinach
			Squash
			Strawberries
			Sugar Beets
			Table Beets
			Tomatoes
			Watermelons

*Developed in consultation with ARS Researchers, Manhattan, KS (3/98)*

*NOTE: When working with crops not listed above, compare their vegetative characteristics with the crops above and select the tolerance factor that best meets the needs of the crop. Contact the State Conservation Agronomist for additional assistance.*

### Protecting Growing Crops from Damage by Wind-Borne Soil Particles:

#### Table 2 Crop Tolerance to Blowing Soil

contains acceptable soil loss tolerances for various crops, based on their ability to withstand damage from airborne soil particles. The crop soil loss tolerance is for the period of time when the crops are most susceptible to damage, which occurs from plant emergence to field stabilization (by closing of the canopy). Crops may tolerate greater amounts of blowing soil than shown in table 2, but yield and quality will be adversely affected. The soil losses will be established using the current approved wind erosion technology.

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

The effective trap strip width shall be measured along the prevailing erosive wind direction during those periods when sensitive crops are

susceptible to damage by wind-borne soil particles.

#### Food and Cover for Wildlife:

- Trap strips shall consist of vegetation that provides food and/or cover for the targeted wildlife species. Only native species will be used and there will be at least two grasses and one legume species in the planted mix.
- The minimum expected height width of trap strips designed for this purpose should be that which provides adequate cover for the targeted wildlife species. See a habitat guide for the featured animal.
- Strip management will be timed to not disturb wildlife during critical periods.

#### Operation and Maintenance:

- After establishment, perennial trap strips shall be fertilized as needed to maintain plant vigor. Weeds shall be controlled with mowing or chemicals. Insects shall be controlled in a timely manner.

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- Mowing or grazing of trap strips shall 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 shall be removed and distributed over the surface of the field, to the extent practical without damaging the trap strip cover.
- Trap strips shall be re-established or relocated as needed to maintain plant density and height.
- When barriers are designed to enhance wildlife habitat, they shall not be mowed or pruned unless their height and width exceeds that required to obtain the wildlife objective and they become competitive with the adjoining land use. When mowing or pruning is necessary, it shall be done only during non-nesting season.