

**NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE SPECIFICATIONS**

**HERBACEOUS WIND BARRIERS
(Feet)
CODE 603**

DEFINITION

Herbaceous vegetation established in rows or narrow strips in the field across the prevailing wind direction.

GENERAL SPECIFICATIONS

Vegetation. Criteria for the establishment of perennial herbaceous vegetation shall be made from guidelines developed locally (provide in specifications) or referenced in the Field Office Technical Guide (FOTG). Refer to locally accepted University or extension agronomy guides, or other accepted technical references for criteria to establish annual herbaceous vegetation. Herbaceous wind barriers may be composed of perennial or annual vegetation, growing or dead. Plant materials shall be selected for the following characteristics:

- Adaptation to local soil and climate conditions.
- Stiff, erect non-spreading growth habit.
- Resistant to lodging.
- Good leaf retention.
- Minimum competition with adjacent crops.

Number of Rows. Barriers may consist of one row of plants, providing the required porosity can be achieved with a single row, and that the row contains no gaps. More than one row shall be planned for each barrier on sites, such as sandy soils, that negatively affect the establishment or survival of the barrier.

When two or more rows are required to achieve the required porosity and to avoid gaps, the rows shall be spaced no more than 36

inches apart.

Barrier Direction and Spacing. The effective spacing between barriers shall be determined using current approved wind erosion prediction technology. When barrier directions deviates from perpendicular to the prevailing wind erosion direction, the spacing between barriers shall be correspondingly reduced. (See table 502-3 of the National Agronomy Manual, 3rd Ed., June 2000, for adjustment factors).

Calculating Porosity. The number of rows of vegetation needed to achieve the required porosity listed in this standard shall be determined using the most current wind erosion technology. State Agronomists shall provide field offices with calculations or tables as needed in their state.

Harvest. Harvest of hay or seed from perennial barriers, grazing, or mowing for weed control, shall be managed to allow regrowth to the planned height before periods when wind erosion, crop damage, or drifting snow are expected to occur. Annual barriers will be managed so barriers are of sufficient height and condition to meet their intended purpose.

Additional Specifications to Reduce Soil Erosion and/or Particulate Generation from Wind

Barrier Height. Barriers designed for this purpose shall have a minimum expected height of 1.5 feet during the wind erosion period for which the barriers are designed.

Barrier Porosity. Barriers established for this

purpose shall be designed to achieve a porosity of 40-50 percent.

Barrier Direction and Spacing. The spacing between barriers shall be measured along the prevailing wind erosion direction during the critical wind erosion period (s) being planned for on the field. Spacing shall not exceed 10 times the expected height of the barrier plus additional width permitted by the soil loss tolerance (T), or other planned soil loss objective. Calculations shall account for the effects of other practices in the conservation system.

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

Barrier Height. Barriers designed for this purpose shall have a minimum expected height of 0.5 feet during those periods when growing crops are susceptible to damage by wind or wind-borne soil particles. The designed height of the barrier will depend on the distance between the barrier and the crop being protected, and the crop height at which it will no longer need the protection of a barrier.

Barrier Porosity. Barriers established for this purpose shall be designed to achieve a porosity of 40-50 percent during the period when growing crops are to be protected.

Barrier Direction and Spacing. The spacing between barriers shall be measured along the prevailing wind erosion direction during those periods when sensitive crops are susceptible to damage by wind-borne soil particles. Spacing shall not exceed 10 times the expected height of the barrier plus additional width permitted by the crop tolerance to damage from wind erosion (*) as specified in applicable Field Office Technical Guides, other accepted technical references, or other planned crop protection objective.

*Crop tolerance to damage from wind erosion is the maximum soil erosion that a growing crop can tolerate, from crop emergence to field stabilization, without an economic loss to crop stand, crop yield or crop quality.

Calculations shall account for the effects of other practices in the resource management system.

Additional Specifications to Provide Food and Cover for Wildlife

Vegetation. Barriers are often designed to enhance wildlife habitat in conjunction with one of the other purposes. Select barrier species that are adapted to the site and that meet the intended needs of the targeted wildlife species.