Herbaceous Wind Barriers

Oklahoma Conservation Practice Job Sheet ***JS 603 01***

WHAT ARE HERBACEOUS WIND BARRIERS?

Herbaceous wind barriers consist of tall grass or other non-woody plants established in rows or narrow strips in the field across the prevailing wind direction.

PURPOSE

This practice is applied as part of a conservation management system to:

- Reduce soil erosion from wind
- Reduce soil particulate emissions to the air
- Protect growing crops from damage by wind or wind-borne soil particles
- Enhance snow deposition to increase plant-available moisture.

HOW IT HELPS THE LAND

Herbaceous wind barriers are a low cost conservation practice that is very effective at reducing wind erosion. Soil erosion is decreased due to a reduction in wind velocity at the soil surface. Wind-borne soil particles are trapped by the barriers, thereby reducing the potential for damage to adjacent crops. A reduction in wind velocities leeward of the barriers helps to trap snow, resulting in an increase in plant-available moisture.

WHERE THE PRACTICE APPLIES

Herbaceous wind barriers are located on land where crops or forages are grown. Barriers are applicable where it is desirable to trap wind-borne sediment; where wind-associated problems occur or where snow management is desired for improved moisture conservation. Herbaceous wind barriers often are used where taller woody species would interfere with farming operations, such as within a field with a center-pivot irrigation system.

WHERE TO GET HELP

For assistance in planning a herbaceous wind barrier layout, contact your local Natural Resources Conservation Service or your local Conservation District office.

APPLYING THE PRACTICE

Selecting Vegetation for the Barrier

Herbaceous wind barriers may be composed of perennial or annual vegetation. Perennial grass species are preferred and should be selected based on having a stiff, erect non spreading growth habit and can also withstand sediment buildup. Species such as Switchgrass, weeping lovegrass, old world bluestems or native mixtures of predominantly tall grass species provide the characteristics mentioned above. Annual species may consist of sorghum or small grains.

Barrier Height

Barriers shall have a minimum expected height ranging from .5 feet to 1.5 feet during the critical wind erosion period, depending on the specific purpose.

Barrier Porosity

Barriers shall be designed to achieve a porosity ranging between 40-75 percent, depending on the specific purpose.

Barrier Direction and Spacing

Barriers shall be placed perpendicular to the prevailing wind erosion direction during the planned critical erosion period. The spacing between barriers shall be measured along the prevailing wind erosion direction. Spacing shall not exceed 10-12 times the expected height of the barrier, depending on the specific purpose.

MAINTAINING THE PRACTICE

Both annual and perennial herbaceous wind barriers need periodic maintenance. Annual barriers need to be reestablished each year in a timely manner to insure effectiveness during the critical period(s) for which the barriers were designed. Gaps may develop in perennial barriers. These must be replanted as soon as practical to maintain barrier effectiveness. Herbaceous wind barriers often collect wind-borne sediment that reduces the health and function of the barriers. It is important to move and reestablish barriers periodically to redistribute sediment over the field as appropriate.

Herbaceous Wind Barriers – Job Sheet

Landowner_____ Field number_____

Purpose (check all that apply)	
☐ Reduce soil erosion from wind	☐ Enhance snow deposition to increase plant-available moisture
☐ Protect growing crops from damage by wind-borne soil particles	☐ Reduce soil particulate emissions to the air

Individual Barrier Layout and Plant Materials Information	
Vegetation type: ☐ Annual ☐ Perennial	
Plant species:	
Number of plant rows per barrier:	Distance (inches) between plant rows (if more than 1):
Seeding rate (number of pure live seeds/foot of row):	
Seeding date:	Seeding depth (inches):
Planned effective barrier height (inches or feet):	
Total width of each barrier (inches or feet):	

Barrier System Layout	
Total number of barriers:	Distance between barriers (feet):
Total area in barriers (acres):	Total amount of seed required (lbs of pure live seed):

Barrier Establishment
Site preparation and seeding:
Seedbed: *Firm and weed free.*
Fertilizer:
Mulching:
Other:

Operation and Maintenance
Pest management:
Other:

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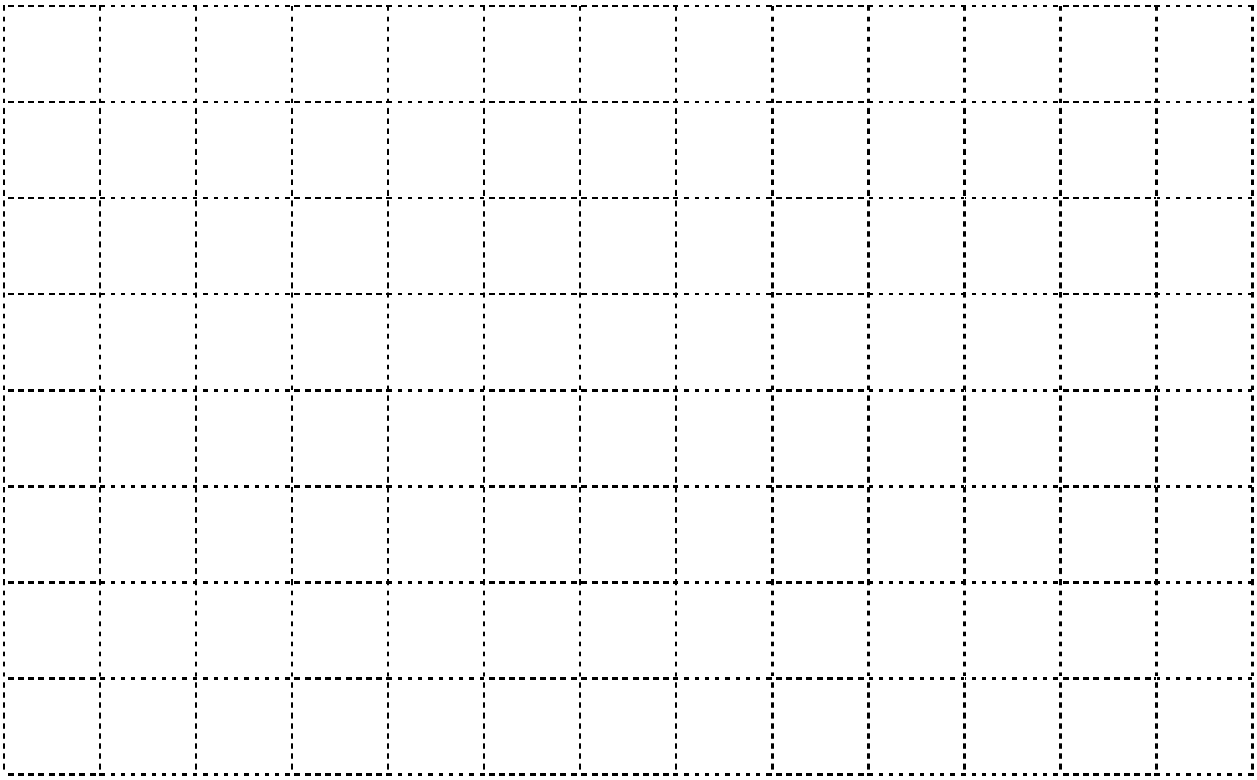
If needed, an aerial view or a side view of the practice can be shown below. Other relevant information, complementary practices and measures, and additional specifications may be included.

Scale 1"=_____ ft. (NA indicates sketch not to scale: grid size=1/2" by 1/2")



Additional Specifications and Notes: