CONSERVATION ENHANCEMENT ACTIVITY

E512102Z

Cropland conversion to grass-based agriculture to reduce wind erosion

Conservation Practice 512 - Forage and Biomass Planting

APPLICABLE LAND USE: Crop (annual & mixed); Crop (perennial)

RESOURCE CONCERN ADDRESSED: Soil Erosion

PRACTICE LIFE SPAN: 5 years

Enhancement Description

Conversion of cropped land to grass-based agriculture. Mixtures of perennial grasses, forbs, and/or legume species are established on cropland where annually-seeded cash crops have been grown.

Criteria

• The current NRCS wind and water erosion prediction technologies must be used to document the average annual soil erosion estimates (before and after) to show reduction in wind erosion.

• Establish perennial grassland mixture on cropland. Mixtures shall be selected based on:
  o Minimum of 50% grass species.
  o Must contain at least one legume.
  o Climatic conditions, such as annual precipitation and its distribution, growing season length, temperature extremes and the USDA Plant Hardiness Zone.
  o Soil condition and landscape position attributes such as; pH, available water holding capacity, aspect, slope, drainage class, fertility level, salinity, depth, flooding and ponding, and levels of phytotoxic elements that may be present.
  o Resistance to disease and insects common to the site or location.
• Intended use, level of management, realistic yield estimates, maturity stage, and compatibility with other species. Verify plant adaptation to the area prior to planting.

• Follow state specific recommendations for planting rates, methods and dates. Seeding rates will be calculated on a pure live seed (PLS) basis. Plant at a depth appropriate for the seed size or plant material, while assuring uniform contact with soil.

• Prepare the site to provide a medium that does not restrict plant emergence.

• Plant when soil moisture is adequate for germination and establishment.

• All seed and planting materials must meet state quality standards.

• Do not plant federal, state, or local noxious species.

• Apply all plant nutrients and/or soil amendments for establishment purposes according to a current soil test and developed specifications.

• When planting legumes, use pre-inoculated seed or inoculate with the proper viable strain of Rhizobia immediately before planting.

• Exclude livestock until the plants are well established.

• Ground cover and root mass need to be sufficient to protect the soil from wind erosion.

Additional criteria when livestock are included in the system:

• Grazing plan must be developed to keep grazing period(s) sufficiently short to allow for plants to recover before re-grazing occurs.

• No more than 20% of the mixture may be alfalfa. Other legumes (especially non-bloating species) may be used in place of or in addition to alfalfa up to a maximum legume percentage of 50%.
• In areas where animals congregate, establish persistent species that can tolerate close grazing and trampling.
**Documentation and Implementation Requirements**

Participant will:

- Prior to implementation, select a perennial grassland mixture for establishment. The mixture must contain at least one legume. *If livestock are included in the system, no more than 20% of the mixture may be alfalfa.* (NRCS will provide technical assistance, as needed.) *If livestock are included in the system, in areas where animals congregate, establish persistent species than can tolerate close grazing and trampling.*

<table>
<thead>
<tr>
<th>Species</th>
<th>Species type (grass, legume, broadleaf)</th>
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- Prior to implementation, select planting technique, seeding rates, and timing appropriate for the site and soil conditions. (NRCS will provide technical assistance, as needed.)

<table>
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<tr>
<th>Planting Date</th>
<th>Planting Technique</th>
<th>Seeding rates</th>
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- If livestock are included in the system, during implementation following establishment, a grazing plan must be developed to keep grazing periods sufficiently short to allow for plants to recover before re-grazing occurs.

- During implementation, keep the following documentation:
  - Records and photographs of planting preparation and any materials purchased or materials on hand used for the implementation of the enhancement.
  - Documentation of seed (Pure Live Seed) and any fertilizer or soil amendments used for the implementation of the enhancement.
  - *If livestock are included in the system, keep documentation and photographs of turn in/turn out grazing records for each field.*

- After implementation, make documentation and records available for review by NRCS to verify implementation of the enhancement.
NRCS will:

- As needed, provide technical assistance to meet the criteria of the enhancement.

- Prior to implementation, use selected mixture and site information to calculate the before and after soil loss from wind erosion using current NRCS wind and water erosion prediction technologies. \textbf{Soil erosion BEFORE \_	/ac/year and AFTER \_	/ac/year}

- Prior to implementation, verify the enhancement is planned for cropland.

- Prior to implementation, verify the selected perennial grassland mixture includes a minimum of 50% grass species. Verify the mixture contains at least one legume. If livestock are included in the system, no more than 20% of the mixture may be alfalfa.\) \textbf{If livestock are included in the system, in areas where animals congregate, establish persistent species than can tolerate close grazing and trampling.}

- \textbf{If livestock are included in the system, prior to implementation verify a grazing plan must be developed which designates the number of paddocks required to keep grazing periods sufficiently short to allow for plants to recover before re-grazing occurs.}

- As needed, prior to implementation, NRCS will provide technical assistance:
  
  - Planning site preparation and establishment specifications meeting NRCS Conservation Practice Standard Forage and Biomass Planting (512).
  
  - Preparing specifications for applying this enhancement for each site using approved specification sheets, job sheets, technical notes, and narrative statements in the conservation plan, or other acceptable documentation.

- Prior to implementation, verify the enhancement is planned for cropland.

- During implementation, evaluate any planned changes to verify they meet the enhancement criteria.

- \textbf{If livestock are included in the system, verify during implementation following establishment, that a grazing plan is developed to keep grazing periods sufficiently short to allow for plants to recover before re-grazing occurs.}
☐ After implementation, verify the planned perennial grassland mixture was established to specifications developed for the site.

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name ______________________________ Contract Number ________________

Total Amount Applied ________________ Fiscal Year Completed __________

________________________________________________________________________

NRCS Technical Adequacy Signature __________________ Date __________