**Conservation Enhancement Activity**

E512101Z2

**Forage and biomass planting for water erosion control to improve soil health**

Conservation Practice 512: Forage and Biomass Planting

**Applicable Land Use:** Pasture

**Resource Concern Addressed:** Soil Erosion

**Enhancement Life Span:** 5 years

**Enhancement Description**

Establishing adapted and/or compatible species, varieties, or cultivars of herbaceous species suitable for pasture, hay, or biomass production that can provide for reduced soil erosion, improving soil health.

**Criteria**

- Select perennial grass/forb/legume plant species and their cultivars based on climatic conditions, soil condition, landscape position and resistance to disease and insects, and will provide the ground cover and root mass needed to be sufficiently protect the soil from wind and/or water erosion.

- Recommendations for planting rates, methods, depths, and dates from land grant/research institutions, plant materials program, extension agencies, or agency field trials will be followed.

- Seeding medium that does not restrict plant emergence will be provided, and planting will take place when soil moisture is adequate for germination and establishment.

- Federal, state, or local noxious species will not be planted.
Plant nutrients and/or soil amendments for establishment purposes will be applied according to a current soil test. Legume seed will be pre-inoculated or inoculated with the proper viable strain of Rhizobia immediately before planting.

Deep-rooted, perennial species will be selected that will contribute to maintaining or increasing underground carbon storage.

New plantings will be monitored for water stress. Depending on the severity of drought, water stress may require reducing weeds, early harvest of any companion crops, irrigating when possible, or replanting failed stands. Plantings will be protected from grazing until an adequate stand is established and meets the species specific, local standard for beginning grazing.
**Documentation Implementation Requirements**

Participant will:

- Prior to implementation, select a perennial forage species or grassland mixture for establishment. If livestock are included in the system, forage species selected will meet the desired level of nutrition for the kind and class of the livestock to be fed. (NRCS will provide technical assistance, as needed.)

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

<table>
<thead>
<tr>
<th>Planting date</th>
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<table>
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<th>Planting method</th>
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<thead>
<tr>
<th>Seeding rate</th>
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- If livestock are included in the system, prior to implementation a grazing plan must be developed to keep grazing periods sufficiently short to allow for forages 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 grazing system, documentation and photographs of turn in/turn out grazing records for each field. If livestock are included in the grazing system, during implementation in areas where animals congregate, establish persistent species than can tolerate close grazing and trampling.

- After implementation, make the forage planting and grazing records available for review by NRCS to verify implementation of the enhancement.

NRCS will:

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

- 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 (Code 512).
  - Prepare 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.
  - If livestock are included in the system, develop a grazing plan to keep grazing periods sufficiently short to allow for forages to recover before re-grazing occurs.

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

- 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
IOWA SUPPLEMENT TO
CONSERVATION ENHANCEMENT ACTIVITY

E512101Z2

Forage and biomass planting for water erosion control to improve soil health

Additional Criteria for Iowa

- In addition to the criteria specified in the National job sheet E512101Z2 the following additional criteria apply in Iowa:
  - For this enhancement, deep rooted perennial crops include legumes and warm season grasses (excluding red top).
  - Plant nutrients and soil amendments for stand establishment will be based on a current soil test and follow Iowa State University Extension Publication PM1688 (lime) and PM569 (N, P, & K).
  - Use Agronomy Tech Note 34 to develop a seeding plan documented on IA-CPA-4 or in the national enhancement participant documentation section.
  - Livestock Exclusion is required until plants are well established. Refer to Prescribed Grazing Job Sheet Table 1 Grazing Management and exclude livestock until the seeded species reach the minimum vegetative growth to begin grazing.
  - The seed mix for animal congregation areas should include tolerant grasses such as Tall Fescue, Smooth Brome, or Kentucky Bluegrass and tolerant legumes such as White (Ladino) Clover or Red Clover. This will be different than the seed mix for the rest of the enhancement area.