



CONSERVATION ENHANCEMENT ACTIVITY

E512B

CONSERVATION STEWARDSHIP PROGRAM

Forage and biomass planting to reduce soil erosion or increase organic matter to build soil health

Conservation Practice 512: Forage and Biomass Planting

APPLICABLE LAND USE: Pasture

RESOURCE CONCERN: Soil

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 or forb and legume plant species or a mix of annual and perennial species and their cultivars based on climatic conditions, soil condition, landscape position and resistance to disease and insects, that will provide ground cover and root mass needed to be sufficient to protect the soil from wind and 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.
- Prepare seed bed for planting that does not restrict plant emergence or leave the site vulnerable to erosion.

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- 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 or deep-rooted perennial and annual species mix 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

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Participant will:

- Prior to implementation, select a deep-rooted perennial forage species or grassland mixture of deep-rooted perennials and annuals 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.)*

Species	Forage category (grass, legume, forb)

- Prior to implementation, select planting technique, seeding rates and timing appropriate for the site and climatic conditions. (NRCS will provide technical assistance, as needed.)

Planting date	
Planting method	
Seeding rate	

- 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 and ensure adequate stubble heights remain to prevent erosion.



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- 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 rate basis (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 and stubble height residue for each field.*
- If livestock are included in the grazing system, during implementation in areas where animals congregate, establish persistent species that can tolerate close grazing and trampling.*
- After implementation, make the forage planting and grazing records and photos 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 and maintain adequate stubble heights to prevent erosion.*

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

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Additional Criteria for Iowa

- For this enhancement, the following table differentiates deep rooted perennials listed in Iowa Agronomy Tech Note 34.

Deep rooted perennials	
Alfalfa	Alsike Clover
Kura Clover	Red Clover
Sweet Clover	Canada Wildrye
Intermediate Wheatgrass	Meadow Brome
Meadow Fescue	Perennial Ryegrass
Smooth brome grass	Tall Fescue
Timothy	Big Bluestem
Eastern Gamagrass	Indiangrass
Little Bluestem	Red Top
Sideoats Grama	Switchgrass

Not deep rooted
Birdsfoot Trefoil
Crown Vetch
White (Ladino) Clover
Kentucky Bluegrass
Orchard grass
Reed Canary grass

For other considered species, contact Area Livestock Specialist or ARC

- Plant nutrients and soil amendments for stand establishment will be based on a current soil test and follow Iowa State University Extension Publication [PM869](#), which references to use [PM1688](#) for soil test result categories and lime recommendations.
- 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.