Natural Resources Conservation Service

CONSERVATION PRACTICE STANDARD

ANNUAL FORAGES FOR GRAZING SYSTEMS

CODE 810

(ac)

DEFINITION

Establish adapted and compatible species, varieties, or cultivars of annual forage species suitable for pasture or fodder.

PURPOSE

This practice is used to accomplish one or more of the following purposes:

- Provide or increase forage supply during periods of low forage production or to extend the grazing season
- Provide temporary cover to reduce wind and water erosion and forage for sites where perennial forages will be reestablished
- Reduce excess nutrients from the soil
- Improve soil microbial life and soil aggregate stability

CONDITIONS WHERE PRACTICE APPLIES

This practice applies to pasture and cropland where annual forages are planted as part of the grazing system forage budget. This practice does not apply to the establishment of annually planted and harvested grain, fiber, vegetable, or oilseed crops. This practice does not apply to forestland or grazed forestland.

CRITERIA

General Criteria Applicable to All Purposes

Use of this standard will comply with all applicable federal, state, and local laws and regulations.

All purposes (grazing/harvest/termination) will comply with other USDA policies where applicable, e.g., Risk Management Agency crop insurance requirements and/or any other interested parties.

Ensure that plants are not listed as noxious weeds or invasive species lists for the state.

All seed and planting materials shall be labeled and meet state seed quality law standards.

Plant species and their cultivars will be selected based upon:

- Site, weather, and soil conditions present at establishment.
- Animal nutritional requirements with no or limited anti-quality issues.
- Intended use,level of management, realistic yield estimates, maturity stage, season of use, and compatibility with other species.
- Resistance to herbicide carryover and disease/insects common to the site or location.

Seedbed preparation, species selection, seeding mixes, seeding rates, dates, depths, fertility requirements, site adaptation and planting methods will be consistent with applicable local criteria and soil/site conditions. Refer to 810 IA GD Seeding Rates and Dates 2021 for limitations.

Seeding rates will be calculated based on bulk rate when pure live seed (PLS) is calculated to be above 80%. If PLS is below 80%, then calculate seeding rate on a pure live seed basis.Seeding will always be consistent with State and local criteria.

If the specific rhizobium bacteria for the selected legume(s) are not present in the soil, treat the seed with the appropriate inoculum at time of planting. Pre-inoculated seed or inoculum coated seed is acceptable. All inoculum used must be within life expectancy timeframe when seeded. Refer to Iowa Agronomy Technical Note #11 for more information related to the benefits and appropriate types of inoculum for legumes.

Apply all plant nutrients and, or soil amendments based on recommendations from a current soil test and as recommended by NRCS state guidance, land grant university and research institutes, extension agencies, or agency field trials.

When herbicides are used, follow all label requirements for use on forages and observe restrictions for livestock use whether grazed or harvested.

Exclude livestock until the plants are ready to be grazed. Refer to the Implementation Requirements for minimum heights to start first grazing.

Forage harvest will be according to Conservation Practice Standard (CPS) (511) Forage Harvest Management and grazing will be according to CPS (528) Prescribed Grazing. The grazing or forage harvest events will leave adequate ground cover and field conditions will be left adequate for establishing the next crop or for seeding perennial forage where applicable.

Minimize soil disturbance at planting and harvest to maintain adequate residue and growing cover to control sheet/rill and wind erosion.

Additional Criteria to Provide or Increase Forage Supply During Periods of Low Forage Production or to Extend the Grazing Season.

Establish annual forage species capable of providing adequate dry matter for the kind and class of livestock to be fed for the desired period of time. Select plants that will produce forage for use during periods when other on-farm forage may not meet livestock needs.

Plant species and cultivars will be selected based upon:

- Amount of forage needed for animal/forage balance;
- animal nutritional needs;
- grazing or harvesting intensity;
- height of grazing/harvesting and timing available to provide plants sufficient recovery as needed;
- species and timing of availability is based on forage shortages or gaps;
- and method and timing of harvest.

Additional Criteria to Provide Temporary Cover to Reduce Wind and Water Erosion and Forage for Sites Where Perennial Forages will be Reestablished.

Selected plants will provide adequate ground cover, canopy cover, stubble height and orientation, root mass and vegetative retardance to protect soil against wind and water erosion.

Fully terminate or control undesirable forage being replaced.

Additional Criteria to Reduce Excess Nutrients from Soil.

Annual forage will be mechanically harvested and removed from the site. Specific species of plants that provide adequate removal of the excess nutrient(s) shall be used.

Annual soil testing according to Land Grant University recommendations will be utilized to determine the level of nutrients.

Harvested forage will not be fed back on, or manure will not be applied back on, the same site from which forage was harvested to uphold the nutrient reduction.

Additional Criteria to Improve Soil Microbial Life and Soil Aggregate Stability.

Plant at least three plant species from at least two functional groups for added diversity. Monitor soil aggregate stability using approved NRCS assessment procedures to show that water stable aggregates are being increased and/or improved . Minimize disturbance, so that annual STIR value does not exceed 20.

If grazed, manage the grazing in a manner to be beneficial for soil microbes and for improving soil organic matter. Manage grazing such that manure, and urine are evenly distributed .

CONSIDERATIONS

Where multiple grazing or harvests are needed, select tolerable species.

More than one year of annual forage may be needed to satisfactorily kill existing perennial cover and control weeds to ensure proper site conditions for planting new perennial forage.

Consider use of the following conservation practices, as applicable: (315) Herbaceous Weed Treatment, (590) Nutrient Management, (595) Pest Management Conservation System, and (342) Critical Area Planting.

Consider soil condition, landscape position, and attributes such as pH, available water holding capacity, aspect, slope, drainage class, fertility level, salinity, depth, flooding and ponding, and levels of toxic elements that may be present.

Consider negative plant/animal interactions, and/or animal toxicity issues .

Use of heavy stemmed forages with high carbon to nitrogen ratios such as millets or sudangrass, or sorghum-sudangrass crosses are beneficial for both livestock forage and increases above and below ground organic materials.

Utilize annual forages that are a different functional group to increase diversity.

When reestablishing perennial forage, consider planting annual forages during fallow periods of grain crop production.

PLANS AND SPECIFICATIONS

Plans and specifications will be prepared for the practice site. Plans will include the following:

- Field number and acres.
- Species to be established.
- Inoculants needed for legumes if planted.
- Termination method of existing vegetation where applicable and weed control method(s).

- Site preparation, seeding depths, rates and seeding dates.
- Type of seeding equipment and calibration prior to use.
- Planned rates and timing of nutrient application(s).
- Other information pertinent to establishing and managing the annual species to be established and prepare for establishing perennial vegetation where applicable (e.g. 528 – Prescribed Grazing; 511 – Forage Harvest Management).

Plans and specifications for the establishment and management of the species or species of plants to be established may be recorded on Implementation Requirements, in narrative form, or on other forms.

Refer to *FOTG > Section 1 > Section 4 Temporary Folder > Annual Forages for Grazing Systems* for the following conservation practice documents:

- 810_IA_GD_Seeding_Rates_and_Dates_2025
- 810_IA_IR_Annual_Forages_for_Grazing_Systems_2025

OPERATION AND MAINTENANCE

An operation and maintenance plan will be provided to and reviewed with the operator/landowner. The plan will include the following items and others as appropriate.

- Evaluate the annual forage crop to determine if it meets the planned purpose(s). If the annual forage crop does not meet the intended purpose(s) adjust the management, change the species , or choose a different technology
- Invasion by undesirable plants will be controlled. Acceptable methods include:
  - by cutting as forage or clipping invaded areas
  - using a herbicide that will not affect planted species
  - by grazing management through manipulating livestock type, stocking rates, density, and duration of stay.

REFERENCES

Ball, D.M., C.S. Hoveland, and G.D.Lacefield, 2015. Southern Forages, (Fifth Ed.). International Plant Nutrition Institute, Norcross, GA.

Collins, M., C.J. Nelson., K.J. Moore, R.F. Barnes. 2017. Forages, Volume 1: An Introduction to Grassland Agriculture, Seventh Edition. Wiley-Blackwell. Hoboken, N.J.

Jones, C.M., A. J. Heinrichs, G.W. Roth, and V.A. Ishler. 2004. From Harvest to Feed: Understanding Silage Management. Pennsylvania State University Extension.

Forage Field Guide (ID-317), 3rd Edition, Purdue University

Anti-Quality Factors in Rangeland and Pastureland Forages. 2001. University of Idaho.

Alternative Annual Forages (IBC 0136) May 2019, Iowa State University

Making the Switch to Baleage (IBCR 202) February 2016, Iowa State University

Short-Term and Supplemental Forages (IBC07 - 9) October 2007, Iowa State University

Grazing Mangement: Toxic Plants (MF3244) April 2018, Kansas State University

Midwest Cover Crop Council - Cover Crop Decision Tool