

**NATURAL RESOURCES CONSERVATION SERVICE  
CONSERVATION PRACTICE STANDARD  
SOUTH DAKOTA SUPPLEMENTS ITALICIZED**

**FORAGE HARVEST MANAGEMENT**

*(ac.)*  
**CODE 511**

**DEFINITION**

*The managed harvest of perennial vegetation by mechanical (haying, ensiling, etc.) means.*

**PURPOSES**

*This practice may be applied as part of a conservation management system to accomplish one or more of the following purposes:*

- \* *Maintain or improve the health and vigor and prolong the life of desirable forage species.*
- \* *To provide feed for livestock.*
- \* *To maintain or improve the quantity and quality of forage.*
- \* *Provide food, cover, and shelter for animals.*

**CONDITIONS WHERE PRACTICE APPLIES**

*To all lands where perennial forages are mechanically harvested such as cropland with perennial forage crops in rotation, hayland, pastureland, and rangelands.*

**CRITERIA**

**General Criteria Applicable For All Purposes Stated Above**

*Removal of forage will be in accordance with plant species limitations, plant sensitivities, planned goals, and objectives.*

*Frequency of harvest will be based on the rate and physiological conditions of plant growth.*

*Weakened forage stands caused by environmental or management induced stresses (severe cold or heat, ice sheets, drought, waterlogged soils, or*

*flooding, overgrazing, or too frequent cutting) shall be deferred from harvest use until signs of stress are gone.*

*Forages will be cut within a stage of maturity that will provide adequate food reserves and/or when axillary tillers or buds are present for regrowth to occur without loss of plant vigor. When multiple harvests of forages occur within the same growing season, cut just prior to stem elongation. For details on when to cut and appropriate cutting heights, see Table 1.*

*Minimum stubble heights or ranges are based on specific species needs for the following: adequate residual photosynthetic area; terminal or axillary bud retention; insulation from extreme heat or cold; and the retention of stem bases, stolons, or rhizomes that store food (reserves to allow for vigorous recovery.) Adequate regrowth before the first killing frost is essential to insure adequate food reserves for initial spring growth and to provide protection from winter injury. See Table 1 for minimum stubble height and fall regrowth.*

*The specified number of harvests per year shall be based on the forage's plants ability to regrow after defoliation by cutting, its growth rate response to environmental conditions, its end of the season minimum stubble height and food reserve requirements, and the length of the growing season.*

*Continued harvesting, year after year, of certain grass species when in the boot stage, will result in lowered vigor. This can cause desirable grasses to decrease and other less desirable plants to increase. When this phenomenon is first noticed, postpone harvesting until after the key grass species have set seed in order to maintain productivity over the long-term. It is usually best, from a management stand point, to schedule this*

Conservation practice standards are reviewed periodically and updated if needed. The current version of this standard is posted on our website at [www.sd.nrcs.usda.gov](http://www.sd.nrcs.usda.gov) or may be obtained at your local Natural Resources Conservation Service.

*practice on a rotational basis to benefit only a proportion of the hayland each year. The deferred portion will produce a feed, higher in quantity and lower in quality, that can be used at times of lower animal nutritional requirements.*

*Rangelands with range sites that have a water table throughout a major portion of the growing season may be harvested for hay once a year. All other rangeland sites should be harvested no more than every other year to allow adequate plant vigor recovery. Limit grazing on rangeland harvested for hay to the dormant season in both the harvest and following year, or incorporate these areas into a prescribed grazing system which allows for adequate rest periods to improve plant vigor.*

*If the land is also grazed, then “Prescribed Grazing” (528A), conservation practice standard, Section IV, South Dakota Technical Guide (SDTG), will be part of the conservation management system.*

*All applications of nutrients will conform to “Nutrient Management” (590), conservation practice standard, Section IV, SDTG.*

### **ADDITIONAL CRITERIA FOR ANIMAL HEALTH AND PRODUCTIVITY.**

*Forages will be selected and harvested in such a manner as to produce feed which meets the nutritional demands of the kind and class of livestock being fed, (i.e., total digestible nutrients, percent crude protein, etc.).*

*Harvested forages should be forage quality tested so rations can be balanced to meet nutritional demands of the livestock being fed.*

### **CONSIDERATIONS**

*Resident wildlife needs should be considered when planning the harvesting dates. Generally, haying operations delayed until after July 15 will reduce negative impacts on wildlife. Harvest from the center of the field outward to provide better escape cover. Flushing bars mounted on harvesting equipment reduces mortality to nesting birds and should be recommended when appropriate.*

*If weeds compete with desirable forage species for nutrients and moisture, follow the guidelines in “Pest Management” (595), conservation practice standard, Section IV, SDTG.*

*Well managed soil fertility levels will maintain high forage yields and enhance forage quality. Follow guidelines in “Nutrient Management (590)” conservation practice standard, Section IV, SDTG.*

*For safety, avoid forage harvesting on slopes in excess of 15 percent.*

*In conjunction with this practice, feed storage and feeding methods should be utilized which retain acceptable forage quality and minimize losses.*

*The total management plan may consider harvesting of surplus pastureland for hay and the grazing of hay and crop aftermath. Supplemental pasture from annual forage crops can be an effective means of providing forage during shortages or while permanent pasture or haylands are being established.*

*Producers should be cautioned that accurate timing of harvest is required to optimize yield as well as quality. In general, hay that is cut in earlier stages of plant maturity will be of higher quality than that cut in later stages of plant maturity.*

*Caution should be used when grazing sorghums to prevent prossic acid poisoning, especially during periods of stress (drought, frost). Also, heavily fertilized crops enhance the potential of nitrate poisoning.*

*In general, forage crops should be managed the same whether they are grown for silage or hay. Machinery operations should be minimized to reduce leaf loss, especially on legumes, and to maximize hay quality.*

### **PLANS AND SPECIFICATIONS**

*Specifications for Forage Harvest Management shall be prepared for each site or management unit according to the Criteria, Consideration, and Operations and Maintenance described in this standard, and shall be recorded on specification sheets, job sheets, in narrative statements in the conservation plan, or other acceptable documentation.*

### **OPERATION AND MAINTENANCE**

**Operation.** *The manager will apply this practice to insure that the concepts and objectives of its application are met.*

***Maintenance.** The manager will use “prescribed grazing” and any additional management measures, as needed, to insure longevity of the forage resource. Weeds will be controlled as required. Fertility levels will be monitored and corrected as necessary.*

