NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE SPECIFICATION GUIDE SHEET

CONSERVATION CROP ROTATION

(ac.)
CODE 328

Guidelines Applicable for All Purposes

The selected plant species must be adapted to the climatic region, the soil resource and compatible with the intended purpose as well as other land user objectives. Adapted crops and varieties listed in appropriate South Dakota State University (SDSU) publications shall be selected. Refer to locally accepted SDSU extension agronomy guides, or other accepted technical references for criteria to establish herbaceous vegetation.

The length of all rotations in South Dakota will not exceed eight years. If a perennial forage crop is in rotation, the rotations may exceed eight years, however the annual cropping portion of the rotation will not exceed eight years. Perennial forage crops in a cropland rotational sequence will not exceed seven years.

Additional Guidelines to Maintain Or Improve soil Organic Matter Content

Crops shall be selected that produce the amount of plant biomass needed to maintain or improve soil organic matter content. In South Dakota, a positive Soil Conditioning Index (SCI) value is necessary to meet the minimum criteria of this purpose.

If partial removal of the crop by means such as baling or grazing occurs, enough residue shall be maintained to achieve a positive SCI value.

Additional Guidelines to Manage the Balance of Plant Nutrients

Recommended nutrient application rates shall be based on SDSU EC750 “Fertilizer Recommendations Guide” using current soil test results, realistic yield goals and management capabilities. Refer to Nutrient Management (590) for further guidance.

Additional Guidelines to Improve Water Use Efficiency

Selection of crops and varieties, sequence of crops, or the annual decision to plant a crop or to fallow, shall be determined using the South Dakota Soil Moisture Management Decision Aide located at http://efotg.nrcs.usda.gov/references/public/SD/SoilMoistureMgt_0104.xls

Additional Guidelines to Manage Saline Seeps

For guidance in saline seep management refer to South Dakota practice standard Soil Salinity Management, Non-irrigated (571).

Additional Guidelines to Manage Plant Pests

The selected plant species should have a minimal potential to act as a host in pest cycles for adjacent crops as well as for the next crop in the rotation.

A minimum of two crop types (i.e., Warm season grasses, Cool season grasses, Warm season broadleaves, Cool season broadleaves) will be required in all rotations in South Dakota.

Crop types are as follows:

Warm season grasses types in South Dakota are: corn, sorghum, sudangrass, millet, perennial warm season native grasses.

Cool season grasses types in South Dakota are: winter wheat, spring wheat, barley, winter rye, oat, durum wheat, cool season perennial grasses.

Warm season broadleaf types in South Dakota are: soybean, sunflower, safflower, chickpea, dry, edible beans.

Cool season broadleaf types in South Dakota are: alfalfa, field pea, flax, canola, mustard, flax crambe, lentil, sugar beet, potatoes.

No plants listed on the statewide or local noxious weed list shall be allowed to establish. The land user shall take reasonable measures to control or eradicate any noxious weeds in the field.

Additional Guidelines to Provide Food For Domestic Livestock

Crops shall be selected to balance the feed supply with livestock numbers. The needed amount of selected crops shall be determined using a feed and forage balance worksheet.

Additional Guidelines to Provide Food and Cover For Wildlife

Crop selection to provide either food or cover for the targeted wildlife species will be grown, managed, or left unharvested as per the needs of the targeted wildlife as determined by wildlife management plan.

OPERATION AND MAINTENANCE

Rotations shall provide for acceptable substitute crops in case of crop failure or shift in planting intentions for weather related or economic reasons. Acceptable substitutes are crops within the same crop type and have similar properties that meet the criteria for all the resource concerns identified for the field. Where summer fallow is planned as part of the rotation, the decision to plant a crop or fallow shall be made annually based on soil moisture at planting time. Fields shall be fallowed only when soil moisture is not adequate to produce a crop. If moisture supply is adequate but limited, short-season shallow-rooted crops shall be selected and grown. Deep-rooted crops shall follow shallow-rooted crops in subsequent years, if needed, to utilize all plant available water in the root zone.

REFERENCES

Martin, J. H., Leonard, W. H., Stamp, D. L., “Principles of Field Crop Production”, PP. 166-172. Third Edition, 1967.

Beck, D.L., Miller, J. L., Hagny, M. P., “Successful No-Till on the Central and Northern Plains”, ASA Conf., 1998.