Natural Resources Conservation Service

CONSERVATION PRACTICE STANDARD

CONSERVATION COVER

CODE 327

(ac)

DEFINITION

Establishing and maintaining permanent vegetative cover

PURPOSE

This practice may be applied to accomplish one or more of the following purposes:

- Reduce sheet, rill, and wind erosion and sedimentation
- Reduce ground and surface water quality degradation by nutrients and surface water quality degradation by sediment
- Reduce emissions of particulate matter (PM), PM precursors, and greenhouse gases
- Enhance wildlife, pollinator and beneficial organism habitat
- Improve soil health

CONDITIONS WHERE PRACTICE APPLIES

This practice applies on all lands needing permanent herbaceous vegetative cover. This practice does not apply to plantings for forage production or to critical area plantings. This practice can be applied on a portion of the field.

CRITERIA

General Criteria Applicable to All Purposes

Use species adapted to soil, ecological sites, and climatic conditions.

Plant species suitable for the planned purpose and site conditions. Avoid using invasive species. Avoid persistent, matte forming species such as Bermuda grass and fescue.

Follow recommendations for planting rates, methods and dates obtained from the Virginia Plant Establishment Guide or other approved source.

Ensure seeding rates and methods are adequate to accomplish the planned purpose. Use certified seed.

Select appropriate planting dates, planting methods and take care in handling and planting of the seed or planting stock to ensure that planted materials have an acceptable rate of survival. Use a reliable supplier when acquiring vegetative planting material (e.g. sprigs, rhizomes, bulbs).

Use sufficient site preparation to eliminate weeds for establishment and growth of selected species.

Use appropriate timing and planting equipment for the site and soil conditions.

Apply nutrients following the nutrient management requirements of the Virginia Conservation Practice Standard Nutrient Management (Code 590).

Use planting methods that are designed to protect the soil resource from erosion.

Periodic removal of some products such as high value trees, medicinal herbs, nuts, and fruits is permitted provided the conservation purpose is not compromised by the loss of vegetation or harvesting disturbance.

Additional Criteria to Reduce Sheet, Rill, and Wind Erosion and Sedimentation

Determine the amount of plant biomass and cover needed to reduce wind and water erosion to the planned soil loss objective using the current approved wind and/or water erosion prediction technology.

Additional Criteria to Reduce Emissions of Particulate Matter (PM), PM Precursors, and green-house gases

In perennial crop systems such as orchards, vineyards, berries and nursery stock, select vegetation that will provide full ground coverage in the alleyway during mowing and harvest operations to minimize generation of particulate matter.

Plant cover established will result in a positive CO_2 equivalent value when determined by the current approved carbon prediction technology to sequester carbon.

Additional Criteria to Enhance Wildlife, Pollinator and Beneficial Organism Habitat

Plant a diverse mixture of grasses, forbs and legumes to promote bio-diversity to meet the needs of the targeted species using approved habitat appraisal guides, evaluation tools, and appraisal worksheets for the Virginia.

If utilized adjacent to cropland, the pollinator plant species selected shall at a minimum provide supplemental forage outside the bloom period of the adjacent crop.

Plant a minimum of 2 grasses and 9 flowering forbs. The maximum seeding rate for all species is based on the number of seed density of no greater than 30 seeds per square foot (drilled) or 45 seeds per square foot (broadcast).The species selected shall be chosen from the Virginia Plant Establishment Guide of this job sheet. Select at least one species from each part of the growing season – early (April – June), middle (June – August), and late (August – September). This will provide habitat for insects and color for the entire growing season.

If shrubs are included in the mixture, plant at least 4 different species in clumps (5 clumps/acre at 5’ x 10’ spacing between plants) and at least 4 herbaceous species to promote diversity. The species selected should provide food at different seasons as well as cover throughout the year. A circular, clumped planting is a good choice where space permits as it provides more interior habitat.

Do not perform maintenance practices or activities during the reproductive period for grassland wildlife species. These dates for Virginia are April 15 to August 15.

Use adequate maintenance measures to control noxious weeds and other invasive species.

Locate habitat plantings to reduce pesticide exposures that could harm wildlife, pollinators, and other beneficial organisms.

Additional Criteria to Improve Soil Health

Plants will be selected on the basis of producing high volumes of organic material to maintain or improve soil organic matter. The amount of biomass needed will be determined using the current soil condition index procedure.

CONSIDERATIONS

This practice may be used to promote the conservation of wildlife species in general, including threatened and endangered species.

Use certified seed and planting stock that is adapted to the site when it is available.

Consider inoculating legume seed with the proper Rhizobium bacteria on sites where the legumes to be planted have not been previously grown.

Mowing may be needed during the establishment period to reduce competition from broadleaf annual weeds.

On sites where annual grasses are an expected weed problem, it may be necessary to postpone nitrogen fertilizer application until the planted species are well established.

Where applicable, this practice may be used to conserve and stabilize archeological and historic sites.

Consider rotating management and maintenance activities (e.g. mow only one-fourth or one-third of the area each year) throughout the managed area to maximize spatial and temporal diversity.

Where wildlife management is an objective, the food and cover value of the planting can be enhanced by using a habitat evaluation procedure to aid in selecting plant species and providing or managing for other habitat requirements necessary to achieve the objective. Encouraging plant species diversity and establishing plantings that result in multiple structural levels of vegetation within the conservation cover will maximize wildlife use.

Where pollinator and wildlife habitat are primary purposes consider less dense seeding rates as long as soil loss is within tolerable soil loss limits. Use native species that are appropriate for the identified resource concern and management objective. Consider trying to re-establish the native plant community for the site. Use a diverse mix of cover plant species that come into bloom at different times and provide a sequence of bloom throughout the year (e.g., plant at least three flowering species from each of the three bloom periods (spring, summer, and fall).

Where practical, use native species that are appropriate for the identified resource concern and management objective. Consider trying to re-establish the native plant community for the site.

If a native cover (other than what was planted) establishes, and this cover meets the intended purpose and the landowner’s objectives, the cover should be considered adequate.

Select species mixtures based on their ability to maintain themselves for sufficient periods of time with little maintenance.

To provide habitat for natural enemies of crop pests, select a mix of plant species that provide year round habitat and food (accessible pollen or nectar) for the desired beneficial species. Consider habitat requirements of predatory and parasitic insects, spiders, insectivorous birds and bats, raptors, and terrestrial rodent predators. Consult Virginia Polytechnic Institute and State University Integrated Pest Management recommendations for beneficial habitat plantings to manage the target pest species.

During vegetation establishment, natural mulches, such as wood products or hay, can be used to conserve soil moisture, support beneficial soil life, and suppress competing vegetation.

PLANS AND SPECIFICATIONS

Specifications for this practice shall be prepared for each site. They shall include, but are not limited to:

- recommended species,
- seeding rates and dates,

- establishment procedures,
- other management actions needed to insure and adequate stand

Use this Conservation Cover job sheet to plan and certify this practice.

OPERATION AND MAINTENANCE

Mowing and harvest operations in perennial crop systems such as orchards, vineyards, berries and nursery stock shall be done in a manner which minimizes the generation of particulate matter.

If wildlife habitat enhancement is a purpose, maintenance practices and activities shall not disturb cover during the reproductive period for the desired species. Exceptions should be considered for periodic burning or mowing when necessary to maintain the health of the plant community.

Mowing may be needed during the establishment period to reduce competition from weeds.

To benefit insect food sources for grassland nesting birds, spraying or other control of noxious weeds shall be done on a “spot” basis to protect forbs and legumes that benefit native pollinators and other wildlife.

REFERENCES

K. G. Renard, G. R. Foster, G. A. Weesies, K. D. K. McCool and D. C. Yoder. 1997. Predicting Soil Erosion by Water: A Guide to Conservation Planning with the Revised Universal Soil Loss Equation (RUSLE), Agricultural Handbook Number 703.Revised Universal Soil Loss Equation Version 2 (RUSLE2) website: http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/technical/

Wind Erosion Prediction System (WEPS) website:
http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/technical/

Preventing or mitigating potential negative impacts of pesticides on pollinators using IPM and other conservation practices. Nat. Agron. Tech Note 9. Washington, DC. http://directives.sc.egov.usda.gov/

VA Plant Establishment Guide. Virginia eFOTG, Section II.