NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE STANDARD

COVER CROP

(acre)
Code 340

DEFINITION

Grasses, legumes, forbs, or other herbaceous plants established for seasonal cover and conservation purposes.

PURPOSES

This practice may be applied as part of a resource management system to support one or more of the following purposes:

- Reduce erosion from wind and water.
- Increase soil organic matter.
- Manage excess nutrients in the soil profile.
- Promote biological nitrogen fixation.
- Increase biodiversity.
- Weed suppression.
- Provide supplemental forage.
- Soil moisture management.

CONDITIONS WHERE PRACTICE APPLIES

On cropland, recreation land, wildlife areas, orchards, vineyards, and groves where vegetative cover is needed for resource protection.

CRITERIA

General Criteria Applicable To All Purposes

Follow all federal, state and local laws, rules and regulations.

Prepare a good firm and smooth seedbed. Cover the seed lightly according to the size of the seed. Note: Depth should be 1.5 times the thickness of the seed.

Plant species, planting dates, and seeding rates in the Florida Agronomy Field Handbook will be followed. Other plant species can be used if they meet the purpose of this standard.

Lime and fertilizer will be applied according to Florida NRCS Conservation Practice Standard, Nutrient Management, Code 590.

Cover crops will be terminated by harvest, frost, mowing, tillage, and/or herbicides in preparation of planting the subsequent crop.

Herbicides used with cover crops will be compatible with the subsequent crop(s) to be planted. Apply herbicides and/or pesticides according to Florida NRCS Conservation Practice Standard, Pest Management, Code 595A.

Cover crop residue will not be burned.

Additional Criteria To Reduce Erosion From Wind And Water

Cover crop establishment shall be timed to adequately protect the soil during critical erosion periods.

Select species that will provide quick growth to provide adequate protection.

Use current erosion prediction technology (i.e. RUSLE 2 and WEPS 1.0) to determine the amount of surface and/or canopy cover needed. Data on crop tolerance and critical erosion periods can be found in the Florida Erosion Control Handbook.

Additional Criteria to Increase Soil Organic Matter

Select a cover crop species that produces high volumes of organic material to maintain or improve soil organic matter.

The NRCS Soil Conditioning Index (SCI) procedure will be used to determine the amount of biomass required. Refer to Chapter 8 in the Florida Agronomy Field Handbook.

The cover crop will be terminated as late as feasible to maximize plant biomass and still allow for the timely preparation of the seedbed for the subsequent crop.

Additional Criteria to Manage Excess Nutrients in the Soil Profile

To prevent nutrients from leaching, cover crops will be established and actively growing before expected periods of high precipitation.

Select cover crop species based on their ability to absorb large amounts of nutrients from the rooting profile of the soil.

The above ground biomass will be removed from the field for maximum nutrient removal.

Additional Criteria To Promote Biological Nitrogen Fixation

Inoculate all legume seed prior to seeding with the proper inoculant according to the seed company or IFAS recommendations.

Nitrogen credits from legume cover crops will be accounted for in the nutrient management plan.

Additional Criteria to Increase Biodiversity

Cover crop species shall be selected that have different maturity dates, attract beneficial insects, serve as a trap crop for damaging insects, and/or provide food and cover for wildlife habitat management.

Additional Criteria for Weed Suppression

Cover crop species crop will be selected for their chemical or physical ability to compete with weeds.

Cover crop residues will be left on the soil surface to maximize allopathic (chemical) and mulching (physical) effects.

Select crops that grow fast and out compete weeds, e.g. Sunn hemp.

For long-term weed suppression, perennials and/or biennial species can be used.

Additional Criteria to Provide Supplemental Forage

Species selected will have desired forage traits, be palatable to livestock, and not interfere with the production of the subsequent crop.

Livestock grazing of the cover crop may be done as long as sufficient biomass is left for resource protection.

Additional Criteria for Soil Moisture Management

Terminate growth of the cover crop sufficiently early to conserve soil moisture for the subsequent crop.

Cover crops established for moisture conservation shall be left on the soil surface until the subsequent crop is planted.

In areas of potential excess soil moisture, allow the cover crop to grow as long as possible to optimize soil moisture removal.

CONSIDERATIONS

Deep-rooted species provide maximum nutrient recovery.

When selecting species, consider that grasses will utilize more soil nitrogen, and legumes will utilize both more nitrogen and phosphorus.

Avoid cover crop species that attract potentially damaging insects or select species that serve as hosts for beneficial insects.

Consider conservation tillage as an alternative to plowing and/or disking.

Using residue management through the application of Florida NRCS Conservation Practice

Standards, Residue Management, No-Till and Strip Till, Code 329A and/or Mulch Till, Code 329B will reduce erosion from wind and water.

In orchards, vineyards, and groves, plant the areas between the rows of trees with annual crops, pasture grasses and legumes (such as perennial peanut), or allow naturally occurring vegetation to grow between the rows. Refer to Florida NRCS Conservation Practice Standard, Pasture and Hayland Planting, Code 512.

Low growing crops that have low nutrient and moisture requirements are desirable in groves, etc.

Limit all tillage operations to mowing or light chopping with the exception of hand hoeing or disking next to the trees. Mowing or light chopping may be used to: control heavy vegetative growth, which may be a potential fire hazard, reduce plant competition for water and nutrients, and facilitate harvesting operations.

PLANS AND SPECIFICATIONS

Plans and specifications shall be prepared for each field or treatment unit according to the criteria, considerations, and operation and maintenance described in this standard.

Specifications shall be recorded using approved specification sheets, job sheets, narrative statements in the conservation plan, or other acceptable documentation.

OPERATION AND MAINTENANCE

The cover crop may be incorporated into the soil surface by min. tillage or plowing and/or disking. Cover crops may be killed with a herbicide when using a conservation tillage system.

Control growth of the cover crop to reduce competition from volunteer plants and shading.

Control weeds in the cover crop by mowing or herbicide application. Timing of mowing or herbicide applications should be based on wildlife considerations.

REFERENCES

NRCS Conservation Practice Standards

- Nutrient Management, Code 590
- Pest Management, Code 595A
- Residue Management, No-Till/Strip Till, Code 329A
- Residue Management, Mulch Till Code 329B
- Pasture and Hayland Planting, Code 510

Florida Agronomy Field Handbook

Revised Universal Soil Loss Equation 2 and Wind Erosion Prediction System 1.0