



USDA Conservation Practice Standards

The following eight **Conservation Practice Standards** have been selected as the most relevant conservation practices to specialty crop production:

1. **Nutrient Management**
2. **Residue and Tillage Management No-Till**
3. **Residue and Tillage Management Reduced Till**
4. **Short Season Cover Crops**
5. **Conservation Crop Rotation**
6. **Irrigation Water Management**
7. **Soil Carbon Amendment**
8. **Mulching**

USDA Natural Resource Conservation Service (NRCS) Conservation Practice Standards [link](#).

1. Nutrient Management

Practice Description

Precisely managing the amount, source, timing, placement, and form of nutrient and soil amendments to ensure ample nitrogen availability, avoid N₂O emissions to the atmosphere associated with excess N application, and avoid greenhouse gas (GHG) emissions from fertilizer production by reducing the total amount of fertilizer applied.

- **Nutrient Management (Ac.) (590)** Manage rate, source, placement, and timing of plant nutrients and soil amendments while reducing environmental impacts. This practice is used to accomplish one or more of the following purposes: improve plant health and productivity; reduce excess nutrients in surface and ground water; reduce emissions of objectionable odors; reduce emissions of particulate matter (PM) and PM precursors; reduce emissions of greenhouse gases (GHG); reduce emissions of ozone precursors; reduce the risk of potential pathogens from manure, biosolids, or compost application from reaching surface and ground water; Improve or maintain soil organic matter.

2. Residue and Tillage Management, No-Till

Practice Description

Limiting soil-disturbing activities improves soil carbon (C) retention and minimizes C emissions from soils. Given the diversity of crops involved in this project, practices #329 will be trialed to determine their suitability for specialty crop production.

- **Residue and Tillage Management, No-Till (Ac.) (329)** Limiting soil disturbance to manage the amount, orientation and distribution of crop and plant residue on the soil surface year around. This practice is applied to achieve the following purpose(s): reduce sheet, rill and wind erosion and excessive sediment in surface waters; reduce tillage-induced particulate emissions; maintain or increase soil health and organic matter content; increase plant-available moisture; reduce energy use; provide food and escape cover for wildlife.

3. Residue and Tillage Management, Reduced Till

Practice Description

Limiting soil-disturbing activities improves soil carbon (C) retention and minimizes C emissions from soils. Given the diversity of crops involved in this project, practices #329 and 345 will be trialed to determine their suitability for specialty crop production.

- **Residue and Tillage Management, Reduced Till (Ac.) (345)** Managing the amount, orientation, and distribution of crop and other plant residue on the soil surface year-round while limiting soil-disturbing activities used to grow and harvest crops in systems where the field surface is tilled prior to planting. This practice is applied to achieve the following purpose(s): reduce tillage-induced particulate emissions (air quality impact); improve soil health and maintain or increase organic matter content (soil quality degradation); reduce energy use (inefficient energy use).

4. Cover Crops- Short Season

Practice Description

Short season cover crops combined with residue and tillage management were shown to promote soil health, increase soil organic matter, and supply nitrogen to subsequent crops.

- **Cover Crop (Ac.) (340)** Grasses, legumes, and forbs planted for seasonal vegetative cover. This practice is applied to support one or more of the following purposes: reduce erosion from
-

wind and water; maintain or increase soil health and organic matter content; reduce water quality degradation by utilizing excessive soil nutrients; suppress excessive weed pressures and break pest cycles; Improve soil moisture use efficiency; minimize soil compaction.

5. Conservation Crop Rotation

Practice Description

Conservation crop rotation is growing a planned sequence of various crops on the same piece of land for a variety of conservation purposes. This practice is applied to support one or more of the following purposes: Reduce sheet, **rill** and wind erosion, maintain or increase soil health and organic matter content, reduce water quality degradation due to excess nutrients, improve soil moisture efficiency.

Commented [GW1]: Rill is a type of erosion [Rill Erosion and Gully Erosion Explained - NativeSeed Group](#)

- **Conservation Crop Rotation (Ac.) (328)** A planned sequence of crops grown on the same ground over a period of time (i.e., the rotation cycle). This practice is applied to support one or more of the following purposes: reduce sheet, rill and wind erosion; maintain or increase soil health and organic matter content; reduce water quality degradation due to excess nutrients; improve soil moisture efficiency; reduce the concentration of salts and other chemicals from saline seeps; reduce plant pest pressures; provide feed and forage for domestic livestock; provide food and cover habitat for wildlife, including pollinator forage, and nesting.

6. Irrigation Water Management

Practice Description

With water availability becoming a global concern, installation and maintenance of drip irrigation, flow meters, and sensors that facilitate smart water management have been shown to have positive environmental impacts. Other practices to control the flow of water through the farm and filter runoff before it reaches water bodies to prevent soil erosion and reduce nutrient leaching, having positive environmental impacts.

- **Irrigation Water Management (Ac.) (449)** The process of determining and controlling the volume, frequency, and application rate of irrigation water. This practice is used to accomplish one or more of the following purposes: improve irrigation water use efficiency; minimize irrigation-induced soil erosion; protect surface and ground water quality; manage salts in the crop root zone; manage air, soil, or plant microclimate; improve poor plant productivity and health; reduce energy use.

7. Soil Carbon Amendment

Practice Description

Soil microbes have been shown to increase yields, facilitate nutrient management, and aid carbon sequestration by specialty crops.

- **Soil Carbon Amendment (Ac.) (336)** Application of carbon-based amendments derived from plant materials or treated animal byproducts. Use this practice to accomplish one or more of the following purposes: improve or maintain soil organic matter; sequester carbon and enhance soil carbon (C) stocks; improve soil aggregate stability; improve habitat for soil organisms.

8. Mulching

Practice Description

This practice is used on all lands subject to erosion and high runoff that need the additional protection. Mulching can be applied to achieve a combination of purposes.

- **Mulching (Ac.) (484)** Applying plant residues or other suitable materials to the land surface. This practice is applied to achieve the following purpose(s): improve the efficiency of moisture management; reduce irrigation energy used in farming/ranching practices and field operations; improve the efficient use of irrigation water; prevent excessive bank erosion from water conveyance channels; reduce concentrated flow erosion; reduce sheet, rill, & wind erosion; improve plant productivity and health; maintain or increase organic matter content; reduce emissions of particulate matter.