

## Soil Health Management Plan Criteria (FY21) Practice/Activity Code (116) ( No.)

### 1. Definition

A soil health management plan (SHMP) is used to identify and document soil health resource concerns and develop a transitional cropping management plan to improve overall soil health. The plan includes management activities and/or land management practices to address all 4 soil health principles associated with crop and forage production. The plan is developed for the following primary purposes:

- Improve soil organic matter levels
- Reduce compaction
- Improve soil organism habitat
- Increase aggregate stability
- Improve plant productivity and health
- Reduce sediment transported to surface water
- Reduce sheet and rill erosion

### 2. SHMP Criteria

The minimum criteria to be addressed in the development of a Soil Health Management Plan includes:

#### A. General Criteria:

1. This section establishes the minimum criteria to be addressed in the development of Soil Health Management Plans. The Soil Health Management Plan must be developed by certified Technical Service Providers (TSPs). In accordance with Section 1240 (A), the Environmental Quality Incentive Program (EQIP) program provides funding support through contracts with eligible producers to obtain services of certified TSPs for development of Soil Health Management Plans.
2. The SHMP should address the resource concerns identified and the conservation practices needed to comprise a conservation system for soil health management. In addition, the transitional plan of practices should be developed for at least a 3-year interval that, as much as practical, follows the 4 principles of soil health:
  - a. **Minimize soil disturbance** by reducing tillage, managing irrigation, and controlling traffic to improve soil structure and water infiltration, reduce aggregate breakdown, and protect soil organism habitat and organic matter.
  - b. **Maximize soil cover** using cover crops and surface residue management to reduce nutrient runoff, buffer soil temperature, reduce evaporation, reduce erosion, reduce aggregate breakdown, protect soil organic matter, and provide habitat for biological organisms.
  - c. **Maximize biodiversity** using diverse crop rotations, multi-species cover crops, and livestock to improve nutrient cycling, break disease cycles, and stimulate below ground activity.
  - d. **Maximize living roots** by using cover crops and perennial crops that will provide soil biota a continuous food source.

Conservation Systems are reviewed periodically and updated if needed. To obtain the current version of this system, contact your Natural Resources Conservation Service [State office](#) or visit the [Field Office Technical Guide](#).  
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## B. Technical Criteria

The SHMP includes, but is not limited to, the following components:

1. Site information:
  - a. Name of owner and/or operator
  - b. Farm location and mailing address
  - c. Name of TSP developing plan
  - d. Date of plan development
  - e. Farm number
  - f. Digital conservation plan map that includes:
    - i. Field and/or tract number
    - ii. Property lines and field boundaries
    - iii. Acres of fields and total acres of the operation by land use
2. Client interview and documentation of objectives, such as:
  - a. Improve soil health
  - b. Improve plant vigor, quality, or yield
  - c. Increase water infiltration and storage
  - d. Prevent or reduce erosion
  - e. Improve nutrient cycling and reduce off-farm inputs
  - f. Improve production cost efficiency
  - g. Sequester carbon
  - h. Others as appropriate
3. Inventory of resources, including:
  - a. Crops grown, and planned rotation by field
  - b. Tillage, planting, weed management and harvest equipment used
  - c. Soil amendments used (*e.g.* compost, manure, biosolids, gypsum, lime, etc.)
  - d. Typical nutrient program including forms, rates and timing of applications
  - e. Typical pesticides used
  - f. Kind/class of livestock and number,
  - g. Cover crop use, including species, and planting and termination methods
  - h. Soil water management concerns (*i.e.* field too wet or too dry at planting)
  - i. Soil maps and descriptions, to include:
    - i. Map unit and texture
    - ii. Drainage class and hydrologic soil group
    - iii. Ecological site and forage suitability group (when applicable)
    - iv. Soil health properties and interpretations (where appropriate)
  - j. Calculations from current erosion prediction technology used to include estimates of SCI and STIR
4. Assessment of resource concerns using State approved tools for the appropriate land use, such as:
  - a. In-Field Soil Health Assessment for Cropland
  - b. Pasture Condition Score Sheet
  - c. Interpreting Indicators of Rangeland Health reference sheet

### C. Documentation

1. Document long-term goals for soil health management systems based on the results from the inventory and assessments and landowner objectives.
2. Develop the plan to assist the producer with adopting new practices and to provide alternatives for incorporating innovative technology or management changes. The plan may include, but is not limited to the conservation practices listed below:
  - a. Primary practices and activities

Code	Practice Name
216	Soil Testing
327	Conservation Cover
328	Conservation Crop Rotation
329	Residue and Tillage Management, No-Till
334	Controlled Traffic Farming
340	Cover Crop
345	Residue and Tillage Management, Reduced-Till
484	Mulching
449	Irrigation Water Management
512	Forage and Biomass Planting
528	Prescribed Grazing
550	Range Planting
590	Nutrient Management
595	Pest Management Conservation System
610	Salinity & Sodic Soil Management

- b. Supporting practices for planning consideration

Code	Practice name
314	Brush Management
315	Herbaceous Weed Treatment
324	Deep Tillage*
330	Contour Farming
333	Amending Soil Properties with Gypsum Products
338	Prescribed Burning
342	Critical Area Planting
382	Fence
394	Firebreak
516	Pipeline
548	Grazing Land Mechanical Treatment
561	Heavy Use Area Protection
574	Spring Development
575	Animal Trails and Walkways
580	Streambank and Shoreline Protection
614	Watering Facility
642	Water Well



3. Record decisions (planned and applied conservation practices) for the land where conservation practices to maintain or improve soil health resource concerns will be applied. This includes documentation for all currently applied practices that will be maintained, as well as all the planned practices with schedule of implementation to include the month and year of planned application and amount.

#### **D. Deliverables**

Two hard copies of the conservation activity plan must be produced – one for the client and one for the NRCS field office. An electronic copy may be substituted or asked in addition at the discretion of the NRCS field office.

1. NRCS deliverables:
  - a. Contact information: names involved with operation, decision maker(s), phone #'s, email, mailing address
  - b. Release of case file information (NRCS-CPA-70, 2012) signed by producer
  - c. Farm legal location (section, township & range, County)
  - d. County map showing location of planning unit (FSA Tract)
  - e. Conservation plan map
  - f. FSA tract map (CLU layer)
  - g. Objectives of operator and/or landowner
  - h. Information from assessment tools ran for existing system (benchmark condition) if they were recently completed.
  - i. Other notes or information as applicable.
2. TSP deliverables:
  - a. Cover page, including name, address, phone numbers of client and TSP; total acres of the plan, signature blocks for the TSP, client, and NRCS acceptance.
  - b. All items in 2.B. and 2.D.1 assembled as a complete plan
  - c. Conservation practices discussed listed (alternatives)
  - d. Practice location, extent, and date to be applied.
  - e. Brief description of the planned practices (practice narrative).
  - f. Other available maps, sketches, or technical information from the planning process that will be useful to the client in implementing the plan.



## Example Interview with Operator

<b>Operator:</b>	<b>Farm No.</b>		<b>Tract No.</b>	<b>Date:</b>
<b>Owner:</b>				
<b>Overall Farming Operation</b> (total acres, crop rotations, acres of each crop, CRP, livestock, all operators, etc.)				
<b><i>Landowner &amp;/or Operator Objective</i></b>				
<b>Tillage/ Cropping System</b> (typical system from harvest to harvest, ever deep rip, etc.)				
<b>Equipment Notes</b> (planter setup (coulters, row cleaners, starter), tillage equipment owned i.e. vertical tillage tool, deep ripper, etc.)				





**Nutrient Program** (P&K program, soil test program, manure used (kind, rate, when, acres, etc.), Nitrogen program (principal, w/ pre, starter, side dress, anhydrous bar used), Liming program - how often, do they incorporate)

**Pesticide Program** (weed resistant issues, herbicide program, insecticide use, over all week control issues)

**Hay Production** (acres, species, how its seeded, nurse crop, following crop, N credits)

**Erosion Issues** (sheet, rill, ephemeral, gully)

**Cover Crop Experiences** (species, rate, how, termination, etc.)