



United States Department of Agriculture

Natural Resources Conservation Service

Missouri Soil Health Strategic Plan

Fiscal Years 2018-2021



September 2017

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Natural Resources Conservation Service (NRCS) Mission:

Helping People Help the Land

Missouri NRCS Vision:

To provide opportunities to Missouri farmers and ranchers allowing them to better protect, enhance, and sustain their natural resources through agency and partnership-led conservation technical expertise and the leveraging of financial resources to implement cutting edge conservation across the landscape.

Desired Outcomes for Soil Health in Missouri:

- Increased and effective outreach and education to help people understand soil health.
- Observed sharing between neighbors of successes and methods of improving soil health.
- Staff and customers are as familiar with soil health practices as they currently are with soil erosion practices.
- Observed soil health management on both cropland and pastureland.

Objective I - Increase Technical Knowledge of Missouri NRCS Staff

Action Item 1: Area Soil Health Specialists (ASHS) will coordinate efforts to provide statewide support and training.

- a. ASHS will work closely with the Assistant State Conservationist for Partnerships and Initiatives (ASTC-P&I) to coordinate efforts.
- b. ASHS will each lead an Area Soil Health Committee (ASHC).
- c. Develop and maintain active communication with the Regional Soil Health Specialist (RSHS). Serve as area point of contact with the RSHS.
- d. Provide comments to Field Technical Services staff about revised drafted conservation practice standards.
- e. Provide feedback on Soil Health Initiative program policy to Programs staff.
- f. ASHS should coordinate with the Area Resource Conservationists (ARCs) to meet in conjunction with their regular meetings when agenda items indicate a need for a joint discussion.
- g. ASHS will work with the Soil Health Division on emerging topics.
- h. ASHS will lead efforts to ensure ASHC members receive annual enrichment opportunities to better provide technical assistance to NRCS employees, farmers, and ranchers.
- i. ASHS will maintain a soil health tab on the Missouri NRCS SharePoint for NRCS employees. This will also be the place for ASHS to provide the most current materials and resources for promoting soil health.
- j. Ensure that soil health literature is readily available for NRCS planners to use with farmers and ranchers.

Responsibility: ASHS, Leadership Team

Action Item 2: ASHS, in coordination with ASHC, lead in providing outreach to farmers and in the training of NRCS staff in their respective areas. ASHC structures can vary; however, it is recommended that they include a mix of area and field office staff and encompass a cross section of positions. It is also recommended that the Area Conservationists (ACs) consider assigning technical advisors such as Area Resource Soil Scientists and Grassland Specialists to support the committees if not already represented as a member. The number of committee members will equal the number of Field Office Service Areas (FOSAs) in the administrative area. It is recommended that one committee member be assigned to provide support to each FOSA, with rotations determined by the Area Conservationist.

- a. Conduct Soil Health demonstrations and provide information at community events such as local fairs, partner workshops, agriculture related conferences, and Soil and Water Conservation District (SWCD) annual meetings.
- b. Guide area-wide, FOSA level, and small group soil health trainings.
- c. Provide support and motivation to continue growth of the soil health movement at area and field office level.
- d. Should meet at least quarterly to report on progress, to organize goals, and plan workshops and training sessions.

Responsibility: ASHS, ACs

Action Item 3: Hold annual hands-on, in-field training (at implement dealers, ag service dealers, or a farm) in each area. Training focuses on NRCS and SWCD staff.

- a. Overall goal of training efforts will be to prepare planners to communicate with farmers.
- b. Expose planners to commonly used agriculture production equipment in the area.
- c. Expose planners to trouble shooting cover crop problems.
- d. Expose planners to different types of cover crop seed, seed identification, and seedling identification.
- e. Review applicable conservation practice standards to ensure working knowledge by planners.
- f. Expose planners to conversation topics, and encourage open discussions with ag service personnel.

Responsibility: ASHS, ACs, ASHC

Objective II - Leverage Conservation Partnerships to Further Soil Health Initiative

Action Item 1: Continue to reach out to ag industry to further initiative opportunities.

- a. Communicate with ag industries regarding their current concept of soil health, the impact of soil health on their bottom lines, their role in promoting soil health, and sustainable agricultural production, as well as their need for technical assistance from NRCS.
- b. Work to address their concerns and engage them in soil health opportunities.

- c. Provide opportunities for ag industry personnel to receive soil health training similar to the training provided to agency staff and also offer to train at their events.

Responsibility: ASHS, ASHC, ASTC-P&I

Action Item 2: Engage local and state-level partners to ensure they are focused on soil health as a priority for Missouri.

- a. Include partner staff in agency training opportunities to further their knowledge of soil health practices.
- b. Support workshops hosted by partners by providing NRCS subject matter expertise and technical information.
- c. Make efforts to have NRCS at the table during state-level soil health discussions.

Responsibility: ASHS, ASHC, Leadership Team

Objective III - Increase Adoption of Cropping Systems that Include Cover Crops, No-Till, and Native Plant Species

Action Item 1: Evaluate the effectiveness Soil Health Financial Assistance opportunities annually.

- a. Continue to offer the Environmental Quality Incentives Program Soil Health Fund Pool and annually work with staff to identify areas to refine policies that will increase adoption.
- b. Provide input to partner agencies to successfully implement cost-share programs that will increase adoption and meet NRCS standards and specifications.
- c. Provide Assistant State Conservationist for Program (ASTC-P) assistance in developing soil health initiative program policies, practices, and ranking in accordance with soil health principles.
- d. Make recommendations regarding Conservation Stewardship Program (CSP) addendums for Missouri and provide feedback to staff on those that positively impact soil health.
- e. Proactively provide training on opportunities to advance soil health through CSP.

Responsibility: ASHS, ASTC-P, ASTC-P&I

Objective IV - Increase Access to Soil Health Training

Action Item 1: Reward employees who make significant commitments of personal time and expense to attend soil health training that is included as part of the individual training plan.

- a. NRCS staff routinely attend soil health training to further their own professional development and meet the criteria as laid out in their individual training plan. This training is often outside of their official tour of duty at their own time and expense.
- b. Employees will obtain records of these types of trainings and provide documentation to their supervisors.

- c. Leadership Team members will annually review submitted records and give consideration per General Manual 360, Section 414.20-Time-Off Awards. Decision to recognize the efforts and the amount of hours awarded will be based on the significance of the contribution that leads to the accomplishment of the agency's strategic plan, mission goals, and objectives.

Responsibility: Leadership Team

Action Item 2: Establish and enforce a mechanism for employees who do attend NRCS funded soil health training to deliver the training material to the field office and area staff in their area.

- a. ACs will discuss the concept and opportunities to make this happen.
- b. Employee will be expected to be prepared to provide this follow-up training as a result of approval to attend the training.

Responsibility: Leadership Team

Action Item 3: Develop Soil Health Mobile Demonstration Trailer for each ASHS.

- a. Trailer will include all components needed to conduct in-field training and demonstrations.
- b. Purchase in Fiscal Year 2017 and implement for usage in 2018.

Responsibility: ACs, Assistant State Conservationist for Management & Strategy

Action Item 4: Improve utilization of the small, in-field rainfall simulators that can demonstrate soil health on rainfall infiltration and runoff.

- a. Determine number and location of existing rainfall simulators in each area and ensure staff are aware.
- b. Purchase table-top rainfall simulators for each FOSA.

Responsibility: ASHS, ASHC

Objective V - To Provide NRCS and Partner Employees with the Tools and Educational Resources to Educate Teachers and Students of All Ages Regarding the Importance of Soil Health.

Action Item 1: NRCS and Partner employees should utilize current educational and outreach opportunities as an outlet to promote soil health efforts.

- a. Make available soil health focused educational resources available.
- b. Promote the inclusion of soil health in context exams and other general educational activities currently done in the classroom or through outdoor classrooms.
- c. Incorporate soil health education into existing educational venues to ensure students are learning the value of a healthy soil through existing opportunities. Give soil presentations in classrooms as requested, and encourage soil health to be a focus of

future events. Examples of events NRCS and partner staff are involved with include SWCD poster contests, Earth Day activities, grassland evaluation contests, Envirothon competitions, Future Farmers of America contests, etc.

Responsibility: NRCS and Partner Employees

Objective VI - Assist Conservation Planners to Integrate Soil Health into Conservation Planning Discussions.

Action Item 1: Provide assistance in developing the soil health requirement for Missouri conservation planning certification.

- a. ASHSs will work with the RSHS to adapt the national soil health and sustainability training course to meet the conservation planning requirements and resource needs for Missouri planners.
- b. Coordinate with Field Technical Services staff to train conservation planners across the state.

Responsibility: ASHS, State Resource Conservationist

Action Item 2: Expand field office staff knowledge of existing tools that can be used to demonstrate soil health benefits to farmers and ranchers.

- a. Provide training on how to properly use cover crop planning with Integrated Erosion Tool and/or Revised Universal Soil Loss Equation 2 (known as RUSLE 2).
- b. Demonstrate and train on how the inclusion of soil health practices provides a positive water quality result when using the Nutrient Tracking Tool and the Resource Stewardship Evaluation Tool.
- c. Review the NRCS cover crop economics tool and other calculators which reinforce the benefits of soil health.
- d. Further education and use of FOSA soil health kits by field offices staff when providing technical assistance to farmers and ranchers.

Responsibility: ASHS, ASHC, ACs

Educational Resources

National Association of Conservation District Resources

- [Soil to Spoon](#) Project.
- [Healthy Soils Are Full of Life](#) Project.

Sites contain educational materials such as videos, booklets, placemats, and posters. Educational resources include an educators' guide, suggested activities, and clip art. Soil related materials have been developed specifically for K-12 students.

NRCS Resources

- [Unlock the Secrets in the Soil](#) – NRCS's award-winning soil health campaign includes a wide variety of information pieces (including fact sheets, posters, videos, farmer profiles, etc.) geared toward farmers, educators, media, and students.
- [Soil Health Nuggets](#) fact sheet is appropriate for higher grades as well as adults. It is also a great tool for teachers.
- [Soil Biology Primer](#) has on-line and printed copies from the Soil and Water Conservation Society at www.swcs.org. The Primer is an introduction to the living component of soil and how it contributes to agricultural productivity and air and water quality. The Primer includes chapters describing the soil food web and its relationship to soil health and chapters about soil bacteria, fungi, protozoa, nematodes, arthropods, and earthworms.
- [Soil Food Web](#) poster is a good resource for middle school to 12th grade students to describe the natural predator process originating from soil.
- [Healthy Soil Info-Graphics](#) and [Newspaper/Magazine Info-Graphics](#) can be downloaded and printed for all ages. These are basic facts that display a specific soil health topic.
- [Health Soils Are](#) fact sheets are great tools and include points explaining how they are "Full of Life", "High in Organic Matter", "Well Structured", and "Covered All the Time". These fact sheets include specific targeted facts on two pages related to each topic.
- [Explore the Science of Soil Health](#) video series focusing on the science of soil health. A Research Associate Professor at the Arnold School of Public Health, University of South Carolina, made a cross-country trek in the fall of 2013 to interview some of the nation's leading researchers and experts—in order to more fully understand the science of soil health. Season 1 has nine episodes and Season 2 includes six that describe the Science of Soil Health that can be used for all age groups including adults.
- [Soil Is Alive](#) NRCS South Dakota 8-page activity sheet provides great information about soil and its contents along with a word find, connect the dots, coloring pages, and many more activities about soil. Appropriate for elementary age children.