

Winter
2017-2018

Soil Health Research, Demonstration, and Outreach Continue at Carter Farms



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Richland Soil and Water
Conservation District



More than four years ago, the Richland Soil and Water Conservation District (RSWCD) partnered with the USDA-Natural Resources Conservation Service (NRCS), Dr. Buz Kloot from the University of South Carolina (USC), and several local farmers to explore the benefits of soil health practices in the sandy soils of the southeastern coastal plain.

The initial project, which received some support from a USDA-NRCS Conservation Innovation Grant, spawned several more research, demonstration, and outreach efforts across the state. RSWCD remains involved in these projects as an outreach partner, helping to organize field days and communications to keep local farmers and natural resource professionals abreast of new findings.

The latest RSWCD outreach event associated with the soil health movement was a field day at Jason Carter's farm in Eastover on October 3, 2017. Carter, an SC Soil Health Champion, has been using cover crops to improve his soil and reduce input costs for several years.

More than 90 participants attended the field day to learn more about cover cropping and the importance of soil life—especially arbuscular mycorrhizal fungi (AMF)—in agricultural fields. The featured speaker, Dr. Wendy Taheri of TerraNimbus, LLC, is an AMF expert.

AMF are small organisms that colonize plant roots and assist the plant with the uptake of water and nutrients; they in turn

receive energy from the plant in the form of sugars and other carbohydrates. According to Dr. Taheri, AMF "are the best crop insurance you can get" because of the benefits they provide in terms of fertility, drought tolerance, pest control, and more.

To increase AMF diversity in agricultural fields, Taheri recommends following these key soil health principles: keep the soil covered, plant diverse species, minimize soil disturbance (tillage), and keep a live root in the ground as much as possible.

In addition to Taheri's keynote, five farmers spoke about their cover cropping experiences, successes, and failures during a panel discussion. Notably, dairy farmer Leon Dueck said "it's *easier* to farm in bare dirt [without managing cover crops], but it isn't *better*." Other sessions included remarks by USDA-NRCS Conservation Agronomist Gordon Mikell and research updates from Dr. Kloot.

After a morning spent in the classroom and a wonderful lunch provided by Mr. Bunky's Market, participants were invited out to Carter's field to see a diverse summer cover crop containing peas, sunflowers, radishes, buckwheat, sunn hemp, and sorghum.

"Hearing from both researchers and farmers that are using these practices in the field was great," said one participant. "I learned a lot and would like to attend more events."

For a list of upcoming events, visit www.rcgov.us/rswcd.

Twenty-five Mile Creek Watershed Agricultural Assistance Program Concludes



Since 2015, RSWCD has been working with Richland and Kershaw Counties and other agencies to improve water quality in the Twenty-five Mile Creek Watershed. With support from a Section 319 Grant from the SC Department of Health and Environmental Control, project partners have provided financial and technical assistance to area livestock owners to install Best Management Practices (BMPs) that protect surface water quality and improve herd health and forage production.

During the three year initiative, nine conservation plans have been developed to address resource concerns at seven livestock farms in the watershed. Landowners have received financial assistance for the installation of 9.8 miles of fencing for stream exclusion and better pasture management; 3.4 miles of pipeline, four wells, and 30

water troughs to provide alternative watering facilities for livestock; as well as 11,200 ft² of heavy use areas to protect sensitive soils from erosion. These BMPs are expected to prevent 2,775 lbs of nitrogen, 744 lbs of phosphorus, 535 tons of sediment, and 8.47E+13 Colony Forming Units of bacteria from entering Twenty-five Mile Creek each year.

In addition to the agricultural assistance program, which ends this month (January, 2018), financial assistance (60% to 100% cost-share) is also available for septic repairs at homes and businesses within the watershed. This assistance will continue to be available through October, 2019. For more information, visit www.rcgov.us/twentyfivemile, or to find out if you qualify for septic assistance, visit www.kershaw.sc.gov/25milecreek.

Opening a Can of Worms on Pastureland Ecology



“Don’t be afraid to try new things,” advised Dr. Matthew Poore, NC State University Extension Livestock Commodity Coordinator, at a Pasture Management Workshop in Blythewood on January 9, 2018. Dr. Poore’s session, arrestingly titled “Dung Beetles: Opening a Can of Worms on Pastureland Ecology,” encouraged attendees to view pastures as complex ecosystems worth studying, understanding, and managing for environmental and economic benefits.

Good pasture management can improve soil health, water infiltration, animal health, farm profitability, and farmer well being. Specifically, dividing a permanent

pasture into two smaller pastures with polywire to allow for rotational grazing is an important (and manageable) first step toward better management. The benefits that result from this first strand of polywire—the so-called “power of one wire”—set the stage for additional management improvements.

In addition to Dr. Poore, Clemson University Area Livestock and Forage Agent Cassie Wycoff and Southern States Cooperative Representative Kevin Campbell spoke about Pasture Annuals and Pasture Weed Management during the event, which was attended by 63 livestock owners and natural resource professionals.

Upcoming Events for Farmers and Natural Resource Professionals



Natural Enemies, Pollinators, and Pesticides: Beneficial Insects and Integrated Pest Management

Thursday, February 15, 2018
6:00-8:00pm
Orangeburg County
Cooperative Extension
1550 Henley St., Suite 200
Orangeburg, SC 29115

Supper provided; 1 CCH for pesticide applicators. Preregistration is required; maximum of 45 participants. **Register ASAP by contacting Diane Curlee at 803-534-2409, ext. 8918 or dcurlee@orangeburgcounty.org.**

2018 RSWCD Board Meetings

RSWCD board meetings are typically held at 6pm on the second Monday of each month. The public is welcome to attend. Locations vary, so contact fisherc@rcgov.us for details or visit www.rcgov.us/rswcd. Below is the tentative 2018 meeting schedule.

- January 8
- February 12
- March 12
- April 9
- May (Date TBA)—Annual Banquet
- June 11
- July—No Meeting
- August 13
- September 10
- October 8
- November (Date TBA)
- December—No Meeting



Conservation Partnership Field Day at Cooper Family Farms

Thursday, March 15, 2018
9:00am – 2:00pm
Cooper Family Farms
209 Stokes Road, Bishopville, SC 29010

Farmers and natural resource professionals are invited to meet the Cooper Family of Kershaw County and learn how they have partnered with USDA-NRCS and other organizations to add high tunnel vegetable production to their farm enterprise, improve soil health through cover cropping and reduced tillage, conserve water through more efficient irrigation practices, and create habitat for pollinators and other beneficial insects. Enjoy a BBQ lunch, tour the farm, and network with other local farmers and natural resource professionals!

Register at www.CooperFamilyFarms.eventbrite.com/!

Third Annual SC Farmer Resource Rodeo

Thursday, April 5, 2018
Phillips Market Center
3501 Charleston Hwy.
West Columbia, SC 29172

Attendees will learn about the resources and programs available to provide technical, financial, and educational assistance to SC farmers. More than two dozen agencies and organizations will participate in this roundup of expertise.

Details and registration information coming soon.

A photograph showing several people at an event. A man in a blue shirt and cap is talking to a man in a tan suit. A woman in a blue shirt is also present. A sign in the background says 'South Carolina Builds for the Future'.

Richland County Celebrates Arbor Day



The RSWCD celebrated Arbor Day with the Arden Elementary School community on Friday, December 1, 2017. Special events included a tree-planting with fifth grade students and guests from the US Forest Service and SC Forestry Commission; a “Gifts of the Forest” program led by SC Forestry Commission staff; an official proclamation by Richland County Councilwoman Yvonne McBride of Council District 3; and a schoolwide assembly featuring educational entertainer and tree-lover extraordinaire Tim Womick.

While National Arbor Day is observed on the last Friday in April, statewide observances vary. SC is the only state in the nation to hold Arbor Day in December. In 1934, the SC General Assembly selected the first Friday in December as SC’s Arbor Day because December is considered the best time for planting trees

in the Palmetto State. Trees are dormant in December and there is often more rain; both factors increase the survivability of transplanted trees.

Arbor Day officially began in Nebraska in 1872 when a newspaper editor named J. Sterling Morton sought to encourage planting trees on the plains to reduce soil loss and because he missed the trees of his native state, New York. More than one million trees were planted throughout Nebraska on the first Arbor Day, and today, Arbor Day is observed in all fifty states.

SC’s next Arbor Day observance will occur on Friday, December 7, 2018. Mark your calendars and make plans to join us in planting and celebrating trees next winter!

Students, staff, and special guests planted a dwarf Southern magnolia at Arden Elementary School on Friday, December 1, in observance of Arbor Day. Students planted, mulched, and watered the tree while learning about the many goods and services trees provide.



Arbor Day Contest Winners on Display

The RSWCD awarded cash prizes to 34 winning entries from Richland County K-12 students in the 2017 Arbor Day Youth Contests. Winning entries are currently on display at the SC Forestry Commission Headquarters, US Forest Service Headquarters, and the Richland County Administration Building in Columbia.

This year's contest theme was "The *Real* Trees of Richland County," and it challenged students to identify and investigate a real tree in their schoolyard or neighborhood. Students were then asked to respond to the theme with a poster, booklet, ornament, or video sharing something they learned about their tree.

Responses ranged from a birch bark ornament (created by Ruby Rutherford, Kali Jackson, and Tania Garcia; 3rd Grade; Catawba Trail Elementary School) to a booklet exploring the natural history, cultivation, and cultural

significance of the Japanese Cherry (created by Emna Guedhami; 5th Grade; Center for Knowledge). Visit our Facebook page at www.facebook.com/rswcd to view photos of winning entries!



2018 Conservation Poster Contest



Contest Theme

The 2018 Youth Conservation Poster Contest topic is Watersheds: Our Water, Our Home. This title must be on the poster for it to be eligible for judging.

Background

A watershed is an area of land that drains rainwater, snowmelt, runoff, and groundwater into a single water body such as a stream, river, lake, or ocean. Watersheds occur on many scales, from the tiny watershed that feeds a single storm drain in a parking lot all the way up to the giant watershed of the Pacific Ocean, which encompasses large areas of several continents. The way we treat the land in our watersheds and our daily habits can have a big

impact on the water we use and drink. We invite you to create a poster to tell your family and friends how and why it is important to practice good conservation habits in your watershed!

Eligibility

The National Conservation Poster Contest is open to students in grades K-12. Richland County students should submit their posters to the Richland RSWCD for local judging by Wednesday, April 11, 2018; students in other counties in SC should contact their local conservation district for entry deadlines and details.

Submission

Posters completed by Richland County students should be delivered to the Richland Soil and Water Conservation District by **Wednesday, April 11, 2018**. Posters may be dropped off in person or mailed. Posters should be packaged to remain flat when sent for judging.

Competition Progression and Awards

Richland County winners will progress to the state competition; state winners will progress to the national competition. Cash prizes (minimum \$25) will be awarded to winning posters in each of five grade level categories at each level of competition.

Complete Rules and Entry Information

Visit www.rcgov.us/rswcd for complete rules, details, and official entry forms.

Class Presentations Available in Spring 2018



RSWCD representatives are available to conduct hands-on conservation activities with preK-12 students throughout Richland County. Programs are tailored to meet students' needs and are aligned with the SC Science Academic Standards.

Program topics available in Spring 2018 include watersheds and water quality, soil composition and soil

health, composting, vermicomposting, and forestry. Additional topics may be available upon request.

Furthermore, several educational tools are available for Richland County teachers to borrow for classroom use. These tools include:

- EnviroScape Watershed Model
- Rainfall Simulator
- Groundwater Flow Model
- Adopt-A-Stream chemical, bacterial, and biological monitoring equipment
- Library of children's composting books



Above: Students learn about earth materials by creating compost bottles. Right: An EnviroScape watershed model demonstrates the movement of sediment and pollutants through the landscape.

For more information, to schedule a program for your class, or to request the use of educational tools, contact Chanda Cooper at cooperc@rcgov.us.

Upcoming Events for Environmental Educators



SC Envirothon Coaches' Training Saturday, February 3, 2018

Clemson Sandhill Research and Education Center
900 Clemson Rd., Columbia
RSWCD will sponsor local high school teams! Visit www.dnr.sc.gov/education/Envirothon/ for details.



How Not to Drive Yourself Crazy With Work: Lessons for Environmental Educators

Monday, February 26, 2018
1132 Idlewilde Blvd., Columbia
Join lifecoach Karin Hill for an insightful discussion of time management, prioritization, delegation, and more. Visit www.eeasc.org for details and registration.

Conservation Education Mini-Grants Continue to Support School Projects

Students and teachers at several local schools will receive support for conservation education initiatives through the Richland Soil and Water Conservation District's Conservation Education Mini-Grants and the City of Columbia's Clean Stream Columbia Awards. Together, these awards provide up to \$1,000 per project to support efforts such as school gardening, water quality education, soil health, waste reduction, energy conservation, and more.

Fall 2017 award recipients are:

- Heathwood Hall Episcopal School
- Dent Middle School
- Richland Two Institute of Innovation
- SC Youth Challenge Academy
- Meadowfield Elementary School

At Heathwood Hall Episcopal School, a \$1,000 Conservation Education Mini-Grant will support a schoolwide commercial composting initiative. "According to the U.S. Environmental Protection Agency, food waste is the number one item thrown away by Americans, accounting for 21.6 percent of the nation's waste in 2014," says Donnie Bain, Director of Columbia Connections at Heathwood Hall. "Composting [...] helps address this real-world issue and helps to instill a sense of environmental stewardship in our students." Heathwood Hall students will partner with City Roots (a local urban farm), ReSoil (a local commercial composting facility), and SMART Recycling (a food waste and organics hauling company) to compost food waste from the school's kitchen and dining hall. Throughout the process, they will learn about the science of composting, the issue of food waste, and how they "can make a difference and have a positive effect on the environment," says Bain.

At Meadowfield Elementary School, a \$500 Clean Stream Columbia Award—available to support projects that promote, protect, or improve water quality at schools located in the City of Columbia—will support water quality education and stormwater management in The Preservation Garden. The Preservation Garden, an initiative spearheaded by teacher Jamie Browder, intends to involve prekindergarten students in the preservation of at-risk foods while helping them learn "ecological principles like conservation, sustainability, biodiversity, and human-nature interdependency." With support from the Clean Stream Columbia Award, "students will [be] producing and preserving at-risk foods, composting organic materials (leaves and fruits), and harvesting rainwater" with rain barrels. Students will learn about how rainwater harvesting benefits the environment and their garden.

Other awards will support water quality investigations at Dent Middle School, a Young Farmers Program at the SC Youth Challenge Academy, and student investigations in bioenergy, composting, and local food production at the Richland Two Institute of Innovation. "The (Richland Soil and Water Conservation) District is blessed to have the opportunity to fund these school projects," says District Commissioner Jeff Laney. "Educating our youth on the importance of water quality, agriculture, and conservation is not only part of our mission, it's vital to our continued success and growth as a community."

Faculty and staff members of all Richland County schools are eligible to apply for Conservation Education Mini-Grants, and schools located within Columbia's city limits are also eligible to apply for Clean Stream Columbia Awards. The next application deadline is February 2, 2018. More details are available online at www.rcgov.us/rswcd.

Apply Now for Youth Scholarship, Educator Awards



A \$1,000 scholarship is available to one conservation-minded Richland County student who plans to pursue undergraduate studies related to natural resource conservation, sustainable agriculture, or the environment at a college,

university, or technical school in South Carolina. The scholarship will be paid to the student's academic institution upon admission. Applications must be

submitted by February 2, 2018. Complete rules and application details are available at www.rcgov.us/rswcd.

Nominations for Richland County's 2017-2018 Conservation Teacher and Principal of the Year will be accepted until April 11, 2018. Winners will receive \$100 cash prizes and will be recognized at the Richland Soil and Water Conservation District's (SWCD's) Annual Banquet. Award recipients must demonstrate an outstanding commitment to conservation education. Guidelines and nomination forms are available at www.rcgov.us/rswcd.

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Website: www.rcgov.us/rswcd

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Support the District: Become an Affiliate

Membership Information

Affiliate Members are a vital part of our conservation team. The financial support given by Affiliates helps us carry out many of our conservation and stewardship programs within the County. Please support our efforts by becoming an Affiliate Member today! Affiliate Memberships are good for **one year** from the date of application. Contributions are tax deductible.

Name: _____

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- \$25—Affiliate Member
- \$50—Silver Affiliate Member
- \$100—Gold Affiliate Member
- \$250—Platinum Affiliate Member
- Mini-Grant Sponsor****: \$500 each

****Conservation Education Mini-Grants** are awarded to local schools to support conservation projects each fall and spring. Sponsors will be recognized in publicity materials.



Please return this form and a check made payable to Richland Soil and Water Conservation District to:

Richland Soil and Water Conservation District
 2020 Hampton Street, Rm. 3063A
 Columbia, SC 29204

Thank you for your support!