

THE REPORTER

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Spring Contests and Competitions

The Soil and Water District's Conservation Poster Contest featured the theme: "We All Need Trees". More than 60 fourth, fifth and sixth graders designed posters illustrating the importance of trees in our lives.



The Grand Prize poster this year belongs to Ella Louse, a student in Mrs. Katie Montgomery's fourth grade class at Augusta. Ella's poster (above) illustrates the benefits of trees.



Katie's parents and younger brother joined her for the announcement (above). Ella received a cash prize, and her poster will be entered in the State Poster Contest, sponsored by the Missouri

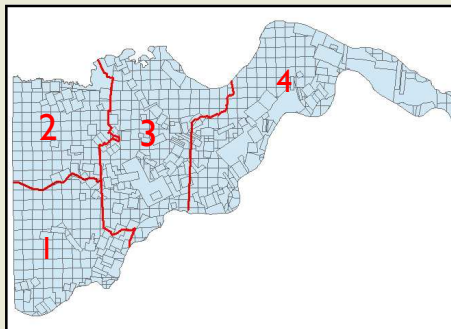
Association of Soil & Water Conservation Districts. Congratulations Ella!

St. Louis Regional Envirothon

Thirty-five high school students participated in this year's St. Louis Regional Envirothon, a natural-resources-based, hands-on competition in which students answer questions and solve problems as a team. The current issue theme for this year's event was "Invasive Species- A Challenge to the Environment, Community and Society", with stations in four resource areas: wildlife, soils, aquatics and forestry. Pictured below



is the first place regional team from McKinley Classical High School in St. Louis. They took seventh place at the state level.



News & Notes

Time for Elections

The St. Charles County Soil & Water Conservation District Board of Supervisors will have an election for two Area Supervisors this year. Nominations are being sought in the agricultural community for Area 1 (southwest portion of county, see map below) and Area 3 (middle of the county). The positions are currently held by Paul Kamphoefner (Area 1), Board Vice-Chairman; and Don Johnson (Area 3) who is the current Chairman.

Prospective supervisors must be agricultural producers in St. Charles County and must be actively participating in the cost-share program.

Duties for board supervisors include: approving cost-share contracts, signing cost-share contracts, managing district operations, and managing district employees.

Interested parties should contact the SWCD at 636-922-2833, ext. 3.

County boundaries for the St. Charles County SWCD Board of Supervisor are shown in the map at left.

Workshop and Farm Tour to show Ecosystem Services of Cover Crops

The University of Missouri Center for Agroforestry will host a farm tour and workshop focused on the benefits of cover crops as a part of agricultural land management decisions. This full-day event will be held **Wednesday, August 3, in Salisbury, Mo.**, which is about two hours from the Wentzville area.

The day will begin at 9:30 a.m., with a tour of the Chariton County SWCD Soil Health Demonstration Farm. An indoor program will follow, from 12:30 to 4:30 p.m., at the Salisbury Knights of Columbus Hall in Salisbury, with lunch provided at 12:30. The indoor program will feature the following topics and presenters:

Cover Crops Improve Soil Quality & Crop Yields, by David Brandt, experienced no-till farmer since 1971, who uses a variety of cover crops.

Evolution of Missouri Soil & Water Conservation Program Cover Crop Practice, by Colleen Meredith/Jim Plassmeyer, both of the Soil and Water Conservation Program, Missouri Department of Natural Resources.

Cover Crop Experiences in Missouri, by Tim Reinbott, Director Field Operations, MO-AES Operations of University of Missouri.

Cover Crop Economics, by Lauren Cartwright, Agricultural Economist/Resource Conservationist, Missouri USDA-NRCS.



Trends with Cover Crops Across the Corn Belt, by Rob Myers, Regional Director-Extension Programs, North Central Sustainable Agriculture Research and Education (SARE).

Registration is required by July 27, and includes a fee of \$10 per person. Checks should be made payable to University of MO, and sent to MU Center for Agroforestry, 203 ABNR, Columbia, MO, 65211. Please include your name, organization name, address with zip code, a daytime phone number, an email address, names of additional attendees and the number of persons attending. If you would like more information, contact Caroline Todd at 573-884-2874, or through her email: ToddCS@Missouri.edu

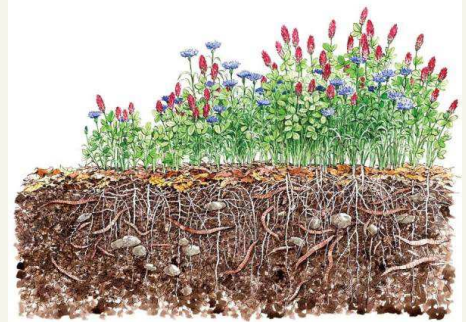
Sales Tax Extension to be on November Ballot

Governor Jay Nixon has designated the November 8 ballot for the renewal of the one-tenth cent sales tax that has funded the state park system and soil and water conservation districts for more than 30 years. Voters will be asked to continue the tax for another ten years.

"This is an initiative that has reduced erosion, protected our waters and made our state parks among the best in the nation," Nixon said during a recent visit to the St. Charles riverfront.

The tax raises more than \$88 million a year, with the money split between parks and the soil and water preservation programs.

Among the groups giving public endorsement to the tax extension are the Sierra Club, the Conservation Federation of Missouri, Missouri Farm Bureau, Missouri Corn Growers Association and the Missouri Soybean Association.



Elayne Sears, Illustration

Cover Crop Sign-Up for Fall 2016 Begins in July

If you wish to sign-up for a fall cover crop, please plan to make an appointment with Charlie or Frankie. They will start making appointments for the week of July 18.

The district can pay the owner or the operator depending upon who has the expense, but the landowner needs to complete the following forms: Landowner Authorization and the Operator Authorization.

Please feel free to pick up a copy of these forms anytime you are at the office. A Vendor Input/ACH-EFT Application will need to be completed by the person receiving the payment.

MDC Offers Landowners Incentives for Public Access

Starting June 1, the Missouri Department of Conservation (MDC) began accepting landowner applications for its new Missouri Outdoor Recreational Access Program (MRAP). This new conservation initiative offers landowners the opportunity to receive annual incentive payments for providing public access for outdoor recreational activities such as hunting, angling, or wildlife viewing. Additional incentives are also available to enhance wildlife habitat on enrolled lands.

MDC piloted the new program last fall in a few select northeast Missouri counties and enrolled more than 1,600 landowner acres. Thanks to federal grant funding through the USDA Voluntary Public Access and Habitat Incentive Program (VPA-HIP), the Department is now expanding the program to other parts of the State.

Upon application, landowners may select one of six public access options: All Access Hunting and Fishing, Small Game & Turkey Hunting, Youth Only Hunting and Fishing, Archery Hunting, Fishing Only, and Wildlife Viewing.

All MRAP lands will be open to foot traffic only and area users will self-register at designated property entry points. Unless otherwise agreed upon by the landowner, parking will occur along roadsides, and public use will only be for the access options agreed upon by the landowner. For those who have concerns about liability, Missouri's Recreational Use Immunity Law offers liability protection to landowners participating in MRAP.

MDC is focused on providing quality outdoor recreational opportunities on all MRAP properties. Consequently, offered lands must meet various eligibility requirements. For example, offers must include at least 40 contiguous land acres or one pond acre (fishing access offers), and they must also meet minimum wildlife or fish habitat criteria to be considered. Examples of targeted cover types include native grass fields (such as those planted in many CRP contracts), wildlife friendly field buffers, restored wetlands, enhanced woodlands, and tree & shrub plantings.

Annual payment rates will be determined by the access type selected by the

landowner, amount of quality habitat available, committed participation length and other factors. Most landowners will likely earn \$15-\$25 per acre each year they participate. Payment rates for fishing-only access will be on an adjusted scale and will be based largely on impoundment size or stream length.

A competitive ranking system will be utilized to select offers for enrollment, and regions with limited public land availability, such as north Missouri, will receive priority. Properties near major urban centers will also be targeted, as will tracts with larger amounts of existing wildlife habitat. The initial application period will run from **June 1 to July 15**, and landowners preapproved for enrollment will be notified in August. The Department plans to make enrolled lands open for public use this fall.

Find more information on the MRAP page of the department's website at www.mdc.mo.gov/mrap.

Information on this new voluntary program includes property enrollment details, area rules and procedures, and maps of enrolled properties. Landowners interested in participating should contact their local MDC representative. Find contact information under LOCAL CONTACT of the MDC website at www.mdc.mo.gov.

Soil Science 101 - Food Web and Land Management

A healthy soil, with a healthy number of living organisms, has the potential to greatly enhance the productivity of your farm. On page 6, in this issue, you can read about the various organisms living out their lives on the farm, and how they function in a healthy soil.

You can enjoy many farm benefits when your soil food web is in good working order. These benefits are both to your bottom line, and also to your community in the form of cleaner water and air!

A healthy food web efficiently stores and cycles nutrients which may reduce your fertilizer inputs. Over time, you may also see a suppression of plant diseases, and a reduction in the amount of pesticides you may use.

When soil organisms stabilize the soil structure, you will see less erosion to water and wind, saving that precious topsoil.

Good soil structure also allows more water to soak into the soil profile where it's available to your crops, rather than running off into a nearby creek during a rain event. This function protects water quality for the entire community.

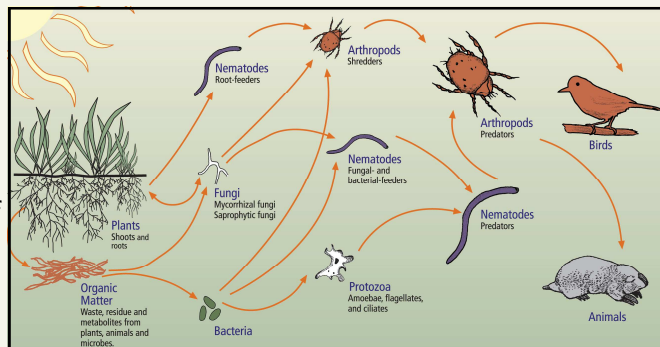
Groundwater is also protected when nitrogen is held by organisms in the rooting zone, reducing the possibility of

leaching nitrates to the groundwater.

You can improve the soil food web functions on your farm through good resource management. Successful land management requires attention to all resources, including

soil, water, air, plants, animals and humans. Some activities can change the complexity and health of the soil community underground:

- Crop rotation - a variety of crop types will provide a greater variety of food sources and promote more types of bacteria, fungi and other organisms.



- Cover Crops - plant residue left on the field provides food for your soil animals.
- Less or no tillage - reducing tillage protects the homes of soil organisms, and preserves pore spaces — their source for air and water.
- Less compaction by vehicles - a compacted soil is a soil without life. The organisms won't stay where they can't survive.

Promoting a rich organic environment in your field is one of the best ways to "grow a healthy soil".

Life in the Soil

- An Essential Part of Your Healthy Farm



There is an incredible diversity of life in the soil. Organisms range in size from the visible earthworms, insects and plants to the tiniest microscopic one-celled bacteria, algae and fungi.

These organisms play a vital role in all our lives. They decompose manure, dead plants and dead animals, cleaning up the surface floor and preventing such waste from entering waterways. They sequester nitrogen and other nutrients that might otherwise enter our groundwater. They fix nitrogen from the atmosphere and make it available for plants. They aerate the soil and enhance water movement within the soil. They prey on crop pests, and are food for above-ground animals.

The function and interaction of these organisms are an essential component of your healthy soil.

Soil Bacteria: *tiny, one-celled organisms. 100 million to one billion in one teaspoon of healthy agricultural soil.*

- Feed other members of the food web
- Decompose organic matter
- Keep nutrients in the rooting zone
- Enhance soil structure
- Improve water flow and reduce erosion
- Compete with disease causing organisms
- Filter and degrade pollutants.

Soil Fungi: *microscopic cells that grow in long threads. Several yards in one teaspoon of healthy agricultural soil.*

- Decompose complex carbon compounds
- Improve accumulation of organic matter
- Reduce leaching of nutrients out of the root zone
- Bind soil particles into aggregates

- Provide food for other organisms
- Improve growth of some plants
- Compete with plant pathogens
- Decompose some types of pollution

Protozoa: *single-celled animals. Several thousand in one teaspoon of healthy agricultural soil.*

- Release nutrients stored in microbial biomass for plant use
- Increase decomposition rate and soil aggregation by stimulating bacterial activity
- Prevent some pathogens on plants
- Provide prey for larger soil organisms

Nematodes: *tiny, usually microscopic unsegmented worms. Ten to 20 bacterial feeders and a few fungal-feeders in one teaspoonful of healthy agricultural soil.*

- Regulate populations of other organisms
- Mineralize nutrients into plant-available forms
- Provide a food source for other soil organisms, influencing soil structure
- Consume disease causing organisms

Arthropods: *tiny, single-celled animals such as amoebas and ciliates. Up to 100 per square foot of healthy agricultural soil.*

- Improve soil structure through burrowing and creation of fecal pellets
- Control disease-causing organisms
- Stimulate microbial activity
- Enhance decomposition by shredding plant litter and mixing the soil
- Regulate healthy food web populations

Earthworms: *Five to 30 in one square foot of healthy agricultural soil*

- Shred and increase surface area of organic matter, stimulating microbial decomposition and nutrient release
- Improve soil stability, porosity and moisture-holding capacity
- Turn soil over, prevent disease, and enhance decomposition by bringing deeper soils to the surface and burying organic matter
- Improve water infiltration
- Improve root growth by providing channels lined with nutrients

The SWCD Board of Supervisors are:

Don Johnson

Paul Kamphoefner

Sam Harris

Adam Bonderer

Rich Hoormann, Secretary

The SWCD Staff are:

Frankie Coleman, Manager

Charles Perkins, Technician

Theresa Dunlap, Information/Education

The NRCS staff are:

Renee Cook, District Conservationist

Shawn Keller, Soil Conservationist

Curtis Hoeft, Soil Conservationist

Lauren Iffrig, Volunteer

The Soil & Water Conservation District (SWCD) and the USDA Natural Resources Conservation District are equal opportunities and employers.