

Douglas County Conservation District



Healthy Soil • Clean Water
Bright Future

If you have an event or webinar that you would like included in our newsletter please email the information to: douglasccd1@gmail.com.

July 6th— [K-State Garden Hour Webinar](#)— Presentations are recorded and available online— registration required. 12-1:00pm

July 7th — [Conservation Conversations](#)— Bee Happy with your Pollinators—Douglas County Public Works Education building, 6:00pm

July 9th— [Jayhawk Audubon Field trip](#)—Baker Wetlands— Meet at the Southwest Parking Lot, south of the Discovery Center, east of E 1400 Rd. 7:30am

July 9th— [Lawrence Bike Club](#)— Monthly Trail Maintenance

July 16th [Family Fun Night](#) in Vinland

July 21st — [K-State Garden Hour Webinar](#)— Presentations are recorded and available online— registration required. 12-1:00pm

Aug. 3rd — [K-State Garden Hour Webinar](#)— Presentations are recorded and available online— registration required. 12-1:00pm

Aug 6th — [Jayhawk Audubon Field trip](#)—Clinton lake— East Bloomington— Parking lot East of the Wakarusa Museum.

Aug 18th — [K-State Garden Hour Webinar](#)— Presentations are recorded and available online— registration required. 12-1:00pm

Aug 18th and 19th— [Wetlands and Stream Tour](#)— Abe and Jakes-

Sept. 15th- [Conservation Conversations](#)— Pond Plant management.—Douglas County Fairgrounds— Flory building, 6:00pm

Newsletter Quarter 2
VOL. 35 ISSUE 2

Protecting the Natural Resources of Douglas County Since 1945

Our Mission: To provide leadership and assistance in promoting individual responsibility for the conservation of Douglas County natural resources



Goodbye DCCD

It has been my distinct pleasure and privilege to serve as the District Manager with the Douglas County Conservation District for the past eight years. I want to commend the District, NRCS, and FSA staff at the Lawrence USDA Service Center for the work they do and the assistance and cooperation they have provided during my tenure here. It has been a pleasure to work with each and every one of you.

I would also thank the district's board of supervisors for the trust and confidence they have placed in me. Special thanks to previous board chair Steve Wilson, who hired me in 2014. Also, a special thanks to Mike Flory, past supervisor, for his guidance, wisdom, and the careful thought he brought to our board meetings. And finally, thank you, to current supervisors Jordan Olsen, David Brown, and Lowell Neitzel for the constant and continued support of district operations which made my job easy.

Thank you too, to Tim Miller, NRCS Supervisory District Conservationist, whose dedication to teamwork and a cohesive office environment helped to bring our office together and develop a team dedicated to the task of conservation.

It has been a great eight years with the only constant being things continually change. We have survived office flooding, working from home, partial office staffing, and the pandemic. We have seen conservation practices placed on thousands of acres in Douglas County, we have saved tons of topsoil, and improved water quality. We have assisted numerous landowners and brought conservation education to thousands of children. In short, we have made a difference.

And while I am not off to greener pastures, the pastures I hope to spend my time in are now on my own farm. Well, maybe they will be greener with some attention. It's time to enjoy my family (especially my granddaughters), friends, and the little critters I find along the way.

Keep up the great work! And remember our mission, "To provide leadership and assistance in promoting individual responsibility for the conservation of Douglas County natural resources."

-Randy Winchester



Healthy soil gives us bountiful crops and forests, productive grazing lands, diverse wildlife, clean air and water, and beautiful landscapes. Healthy soils are vital living ecosystems that sustain plants, animals, and humans.

The ABCs of Soil Health will walk you through some of the amazing facts about soil's role in agriculture and supporting life on this planet, and what we can do to better manage our soil through conservation. Conservation practices for healthy soil pay you back with healthier, more resilient plants, and may save you time and money with fewer trips in the field, less fertilizer and pesticides, and less fuel.

A is for Assessment

A soil health assessment is the first step in understanding the chemical, physical and biological functioning of soil and can be done in the field and in the laboratory. Soil health indicators generally assess the soil organic matter dynamics, structural stability, microbial activity, and carbon and nitrogen food sources. All soils are not created equal – different indicators can show how well a soil is functioning related to inherent characteristics and dynamic management practices. Contact your local NRCS Service Center to schedule a soil assessment.

B is for Biodiversity

Biodiversity is the variety of life in an ecosystem and important to healthy soils because of the roles different crops and soil organisms play in soil functions. The most effective ways to increase biodiversity in agricultural fields is by managing diverse crop and livestock species, reducing tillage, providing cover, and implementing integrated pest management. The healthiest of soils are those with abundant diversity!

C is for Cover Crop

Cover crops are grasses, legumes, and forbs planted for seasonal vegetative cover, grown primarily to conserve natural resources rather than to produce food, fiber, fuel, or feed. Cover crops provide many ecosystem benefits and can help create a more profitable and sustainable farming and ranching system. One economic case study on a corn and soybean farm in Illinois that incorporated cover crops and nutrient management resulted in increased net income of \$22 per acre annually, while also reducing a N and P losses by 23 and 33%, respectively.

D is for Disturbance

In agriculture, disturbance includes tillage (the most common soil disturbance), application of pesticides and nutrients, drought, flood, overgrazing, and harvest, and it often leads to negative soil effects. Minimizing disturbance by reducing tillage, avoiding overgrazing, properly applying nutrients and pesticides, and reducing the impact of harvest will enhance soil organism habitat and contribute to the healthy functioning of the soil.

E is for Earthworm

Earthworms process plant residues into nutrient-rich manure called castings, mix soil, increase water and air movement, and provide channels for root development. Earthworms are a farm's engineers for building healthy soil. Tillage reduces earthworm numbers by destroying the worms themselves as well as their habitat. The inappropriate use of nutrients and pesticides can also affect earthworm numbers.

F is for Food Web

The soil food web is the community of organisms living all or part of their lives in the soil. This soil food web diagram represents the interconnected feeding relationships of plants, microbes, fungi, and all organisms in the soil, which play an important part in soil health. As all these soil organisms eat, grow, and move through the soil food web, they support healthy soils.

G is for Geosmin

Geosmin is an organic compound formed by soil-dwelling bacteria. It is the source of the earthy smell of living, healthy soil. The human nose is so sensitive to the compound that it is detectable at one hundred parts per trillion. In other words, we can sense geosmin better than sharks can detect blood. Healthy, productive soils should smell fresh, clean and pleasant.

H is for Healthy Soil

Healthy soil has the continued capacity to function as a vital, living ecosystem that sustains plants, animals, and humans. Soil isn't an inert growing medium, but rather is teeming with billions of bacteria, fungi, worms, and bugs that are the foundation of an elegant ecosystem. Healthy soil resists erosion and compaction, holds rainwater for later use during dry periods, and reduces runoff and flooding. Healthy soil also filters, buffers, degrades, and immobilizes potential pollutants, provides habitat for soil organisms to flourish, and serves as a firm foundation for agricultural activities to keep the ecosystem running smoothly.

I is for Infiltration

Infiltration is the rate at which water enters soil. Management practices that minimize disturbance, include continuous living roots such as perennial forages, improve grazing management, increase use of cover crops, and diversify crop rotations will improve infiltration rates. The higher the infiltration rate, the more water ends up in the soil to support growing plants. When infiltration rates are lower there is increased runoff resulting in erosion, sedimentation, flooding, and nutrient and pesticide movement into surface water. As the impacts of climate change intensify, increasing infiltration rates is important to mitigate and adapt to extreme weather events such as floods and droughts.

J is for Journal

A soil health journal can provide a record of important management activities, unusual situations, and details that can lead to better planning for future growing seasons. Soil health is a different journey for everyone and starting your own soil health journal can provide valuable insight. For example, if you're trying cover crops for the first time or developing a more complex system, you might record the species of cover crops used, seeding dates and rates, and notes on establishment, performance, competition, and termination method, timing, and effect. Through on-farm experimentation you can learn by trial and error what works best on your operation and share your experience with other farmers.

K is for Keep it Covered

Keeping soil healthy and insulated with residue, living roots, and lower disturbance improves soil temperature. Healthy soil with good aggregation and porosity, high organic matter, and diverse soil biological activity will be more resilient to both hot and cold weather. Reducing soil surface heating by maintaining residue cover is important to reduce water lost to the atmosphere and potential drought stress. In northern climates with cold, wet springs, it is important to have the soil area where seeds are planted to heat up and dry out quickly to insure rapid germination and emergence. Soil that is well-aerated will warm up faster, increasing germination and emergence compared to soil saturated with water.

L is for Living Roots

Maximizing continuous living roots in soil with diverse crop rotations and cover crops is a core soil health principle. Roots protect soil from erosion, recycle nutrients, increase infiltration, and in some cases reduce or mitigate compaction. Roots supply organic matter deeper in the soil, are involved with increasing aggregation, and provide channels for other roots to follow for increased aeration and water flow deeper into the soil profile. Continual living roots through diverse crop rotations that include cover crops support year-round soil health and microbial activity.

M is for Mycorrhizal Fungi

Mycorrhiza literally means "fungus root" that describes the symbiotic relationship of fungi and plant roots. Mycorrhizal fungi supply plants with water and essential nutrients from parts of the soil that roots alone would not be able to access. Plants with mycorrhizal fungi are more tolerant to drought. In return, the plant provides the fungus with sugars and other carbohydrates that are produced through photosynthesis. Mycorrhizal fungi are best developed in undisturbed soils that aren't excessively fertilized with phosphorus. Most cover crops are a host for mycorrhizal fungi which can then be transferred to the following crop, potentially increasing yield.

N is for Nutrient Cycling

Nutrient cycling is the transformation of nutrients from complex organic compounds to simple compounds or elements by organisms. There are 16 or more essential nutrients that plants need to grow and be healthy, most of which are obtained from the soil. To optimize crop production, producers may add nutrients to the soil in the form of fertilizer, manure, or other amendments. Healthy, functioning soil has the capacity to provide at least some of a crop's nutrient requirements through improved nutrient cycling, reducing the amount of fertilizer needed. Adding the right type and amount of fertilizers, manure, compost, or other amendment in the right way at the right time can help make the soil healthier and improve plant production.

O is for Organic Matter

There may be no other component that is more important to healthy soil than organic matter. In healthy soils, organic matter increases aggregate stability, water holding capacity, and food sources for soil microorganisms. Even though organic matter is vital to healthy soils, many modern agricultural operations are not managed in ways that build high levels of it. Tillage that disturbs the soil surface and seasonal fallow that leaves the soil surface bare without crop residue are practices that reduce and then limit the build-up of soil organic matter. It may take several years to build stable organic matter to the point where the increase is detectable on a soil test, and practices that consistently supply carbon in the form of cover crops, compost, or manures can benefit soil organic matter in the near term.

P is for Plant Diversity

Plant diversity is one aspect of the core soil health principle to maximize diversity. While the biodiversity of agricultural lands is limited compared to native grasslands, conservation practices can start to mimic the effects of plant diversity. Plant biodiversity can be enhanced by including crops grown in rotation, intercropping, or choosing specific cover crops for their diverse characteristics like high or low water usage, tap or fibrous roots, quick or slow decomposition, or the ability to fix or scavenge nitrogen, to name a few. Plant diversity is important for long-term sustainability and food security and can also contribute to increased productivity. Managing for diversity above and below ground supports healthy soil function.

Q is for Quorum Sensing

Just like a meeting that requires a quorum — a minimum number of persons present to take an action — “quorum sensing” means density-dependent group activity in microbiology. Healthy soils have abundant and diverse microbial populations, possibly leading to a “quorum” that influences the function of the entire community. In other words, microbial populations interact based on the concentration of chemical signals that alter gene expression and influence the function of the entire community. Quorum sensing systems in bacteria may have been one of the early steps in evolution of multicellular organisms.

R is for Resilience

Resilience is the capacity to recover from disturbance. As the impacts of climate change intensify, it is increasingly urgent for producers to have the tools needed to build resilience to flooding, drought, wildfire, and other climate-related stressors. Healthy soils can protect crop yield and return a production system back to normal after extreme weather events. Increasing a soil's organic matter and soil health increases its available water-holding capacity, infiltration rate, and aggregate stability while reducing erosion and nutrient losses through runoff. This has the potential to improve a soil's resilience to flooding and drought events, reducing farmers' risk of economic loss by having a more stabilized yield from year to year.

S is for Soil Armor

Soil “armor” is a way of referring to plants, crop residue, mulch or compost that are managed to cover the soil surface. Keeping the soil covered protects soil from erosion, reduces surface evaporation, maintains ideal temperatures, and provides habitat and food for soil surface organisms. In addition, sunlight on the surface is limited and reduces weed development. Residues on the soil surface also provide a protective habitat for the soil food web's inhabitants.

T is for Tillage

Tillage is a management practice that breaks up the surface structure of soil with a plow, disk, or other implement to prepare the land for planting. Tillage is detrimental to soil health because it destroys aggregates (groups of soil particles bound to each other), structure, and pore space, increases risk of erosion and runoff, and reduces soil organic matter, water holding capacity, and infiltration. Reducing tillage or No-till farming aids in fulfilling the Soil Health Principle of minimizing disturbance, especially when coupled with residue management. One economic case study of a corn and soybean operation in Ohio that incorporated strip-tillage and cover crops showed an increase corn yield and an increase in annual income of \$56 per acre.

U is for USDA-NRCS

The United States Department of Agriculture's Natural Resources Conservation Service (USDA – NRCS) has made a priority of helping farmers and ranchers improve soil on their operations since its creation in 1935. NRCS conservation planners are expertly trained in soil health systems. To speak with a planner, contact your local USDA Service Center.

V is for Videos

Videos of soil health principles in action are one of the main learning tools of soil health practitioners. These videos explain everything from setting up equipment to planting and termination of cover crops. NRCS has a large library of videos available to the public through our "Soil Health Theater."

W is for Water Cycle

The water cycle describes the continual movement of water on Earth and in the atmosphere. Healthy soils support healthy plant production by improving soil-plant-atmosphere water cycling. The cycle includes precipitation, infiltration, runoff, evaporation, and transpiration (plant drawing water from below-ground through their roots and releasing water through their leaves). Soil conditions affect many of these processes because soil stores and filters water. If the soil surface is covered by plants or plant residue, raindrop impact is reduced protecting soil structure, allowing more water to infiltrate, and reducing runoff. This can result in numerous benefits including decreased downstream flooding, improved habitat for fish and other wildlife and better water quality.

Xenobiotic

Some toxins are xenobiotic (literally "strangers to life") compounds that are foreign to biological systems. A variety of xenobiotics are part of the agriculture production process and include pesticides, antibiotics, and other agrochemicals that can interact with the soil environment. Soil organisms can be adversely affected by xenobiotics causing a decrease in soil function. Impacts of xenobiotics can be reduced by reducing synthetic pesticides, implementing an integrated pest management program, and following the principles of soil health.

Y is for Yield

Yield is the production measure of crops and, when calculated with price, determines crop income in agricultural crop production systems. Healthy soils have improved infiltration, drainage and trafficability (ability to support agricultural traffic without degrading) and may allow farmers to get into their fields earlier and harvest later, which can have economic benefits. Soil health practices can increase soil organic matter and build up organic nutrients, reducing the amount of fertilizer amendments required. Soil health practices require fewer passes in fields due to reduced tillage and fewer agrochemical applications, which in turn reduces labor and fuel costs. Successful soil health management systems have the potential to increase profitability and viability of an agricultural operation over time.

Z is for Zymogenous

In soil ecology "zymogenous" refers to bacterial organisms that are quickly activated based on changes in the soil environment, like the addition of fresh decomposable residue that provides a sudden influx of carbon and nutrients. Once dormant, these organisms spring to life by accelerating their metabolism. They breathe more as they actively break down new material, releasing carbon dioxide.

Kansas Climate Smart Initiative

The Kansas Association of Conservation Districts (KACD) is the recipient of a grant in partnership with ADM and others that will support the implementation of cover crops on 100,000 + acres across Kansas. Farmers that are new OR veterans to using cover crops in their operation are eligible for this assistance of \$10 per acre. Contact the Douglas County Conservation District for more information about this new opportunity.

Voter information for August 2 primary election

The Douglas County Elections Office is located at 711 W. 23rd St., Suite 1, which is in the shopping mall at the southwest corner of 23rd and Louisiana streets. It is open 8 a.m.-5 p.m. Monday-Friday.

The primary election will be held August 2. The ballot will include nominations for statewide offices, state representatives, county commissioner, precinct committee-persons and township officers in addition to a Constitutional question.

Republicans and Democrats will vote their party's ballot. Unaffiliated voters may affiliate with one of those parties at their polling place or they may vote a question-only ballot. Libertarians will vote the question-only ballot

Key dates :

July 12 – Last day to register to vote in primary. Register at

ksvotes.org.

July 13 – Advance voting in person begins.

July 13 – Advance voting by mail begins. To request an advance ballot, visit: ksvotes.org.

July 26 – Last day to request an advance ballot to be mailed.

August 1 – Advance voting closes at noon.

August 2 – Polling locations open 7 a.m.-7 p.m.

Check out the website for more information. <https://www.douglascountyks.org/depts/voting-and-elections>



Japanese Beetles are on the crawl.

Japanese Beetles have been spotted coming up out of the ground in Douglas County. Although their lifespan is only about 40 days, this beetle has a voracious appetite. Preferring mainly flowers and ornamental plants they can be quite destructive. Here are the 10 ways to get rid of Japanese Beetles:

1. Hand Pick Beetles– Drop the beetles into water with a few drops of dish soap. Best time to gather is early evening.
2. Japanese Beetle Trap- Place the trap at least 50ft away from the desirable plants. Empty the trap daily for best results.
3. Repel the Beetles- The smell of dead Japanese beetles acts as a repellent.
4. Make a spray– Toss dead Japanese beetles in a blender and add water. Liquify the bugs, add more water and strain. Spray the solution on plants. Reapply after rain.
5. Use a trap Crop– Plant a row of the Japanese beetle favorites in another part of the yard to lure them away from your prize plants.
6. Skewer Grubs– In early fall the Japanese Beetle grubs feed on the lawn. Strap on a pair of lawn aerating sandals and go over any brown spots in the lawn. The spikes should be a good length to skewer the grubs.
7. Spray Nematodes– Use natural predators against them. Spray the lawn with soil dwelling nematodes in the early Fall/ Spring. This predator will kill the grubs.
8. Welcome Predators- Attract birds to your yard. Provide feeders, shelter and water , and let nature take its course.
9. Don't water your lawn– Japanese Beetles prefer a well saturated soil to lay their eggs. By not watering the lawn during beetle season you reduce the population for next year.
10. Apply Pesticide– This is a last choice as the pesticide can affect pollinators in your yard.

Conservation Conversations

Bee Happy With Your Pollinators!

Rescheduled

Come and join us as we discuss the different ways that we can help the pollinators in our area survive and thrive.

Guest speaker: Tim Gogolski . Refreshments will be provided

Details: July 7th at 6:00pm

Douglas County Public Works Classroom.



Pond Plant Management

Join us as we discuss aquatic vegetation management. The benefits and hinderances of types of aquatic plants, and what would work best for you. Refreshments will be provided

Details: September 15th at 6pm

Douglas County Fairgrounds– Flory building

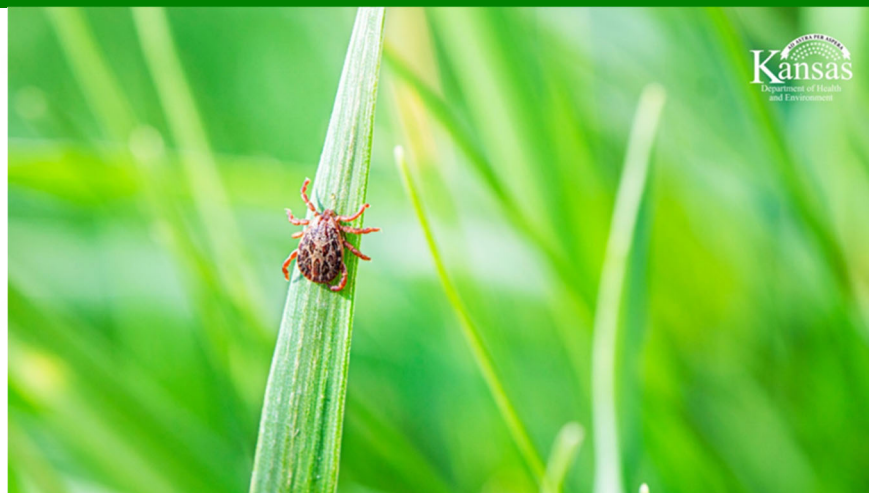


Douglas County, Kansas residents can take soil samples to the K-State Research and Extension Office in Douglas County. Through a grant from the Douglas County Conservation District, Douglas County Agriculture producers are eligible for up to 5 free soil tests each year. Soil samples can be taken to the:

K-State Extension Office in Douglas County
2110 Harper Street
Lawrence KS 66046
785-843-7058

Soil Testing Equipment is available to Douglas County Residents

- Soil probe
- Soil Compaction Meter



Tick season is here, and ticks can carry diseases that can cause serious illness and sometimes death if left untreated. Take the following precautions to prevent tick bites:

- ✓ Mow regularly
- ✓ Avoid wooded or bushy areas with tall grass & leaf litter
- ✓ Use repellents like DEET, picaridin, or oil of lemon eucalyptus
- ✓ Wear light-colored clothing that covers the body
- ✓ Check people, pets, & outdoor gear after being outside
- ✓ Shower within 2 hours of being outside
- ✓ Wash clothes in hot water &/or dry on high at least 10 min.

Symptoms of tick-borne disease can include any unusual rash or unexplained flu-like symptoms, including fever, severe headaches, body aches, and dizziness. See your doctor immediately if you have been bitten and experience any of these symptoms.

Reminder to beware of these plants this summer.



Douglas County Farm Bureau
Family Fun Night Is Back!

SATURDAY, JULY 16TH 6:00pm-9:00pm

Vinland Fair Grounds
1736 N. 700 Road
Vinland, KS




-Cruise Night
-Games & Prizes
-Antique Tractor Show


Live Music From
Horville Road
Music Starts At 6:00pm

VOTING MEMBERS: Please join us for
our Annual Meeting business session
and elections in the barn at **5:30pm**

THIS IS A FREE EVENT - Food Provided By Crimson and Blue BBQ!

FOOD! FUN! ENTERTAINMENT! GIVE AWAYS!

**The Women's Committee will be collecting non perishable food items
at this event. Let's join together to End Hunger in Douglas County!**

For more information email us at douglasfb@kfb.org –or– Visit us on Facebook
(bring your own lawn chairs)

Douglas County Food Recovery Program seeks volunteers for this year's growing season

Want to get your helping hands a little dirty? The growing season is about to pick up and we need volunteers to help recover food from area farms. You can support food waste reduction and recovery of edible food while feeding people in need by signing up to volunteer with the Douglas County Food Recovery Program. Volunteers are needed to help glean fields and deliver food. Individuals and groups are welcome. Last year, the Food Recovery Program gleaned 17,656 pounds of produce with 322 hours of volunteer help. All of the produce was donated to local food pantries. So far this year, spinach has been recovered from two farms and donated to Just Food.

If you would like to get on the email list to stay informed about volunteer opportunities, sign up here: <http://dgcoks.org/foodrecoveryvolunteer>.

For more information about the food recovery program or to get involved, please contact Food Waste Reduction Specialist Jamie Hofling at jhofling@douglascountyks.org



If you see these tubes popping up around the lake, it is to recycle your fishing line. Our Public Works Department teamed up with the Jayhawk Audubon Society to install three monofilament fishing line recycling bins at Lone Star Lake. We strongly encourage use of these bins! When disposed of improperly monofilament can be hazardous to fish, turtles, wildlife, swimmers and even boat propellers.

AUGUST 18 & 19
ABE & JAKES LAWRENCE, KS

Wetlands & Streams
Tour and Symposium

KAWS
KANSAS ALLIANCE FOR WETLANDS & STREAMS

AUG 18 TOUR & AUG 19 SYMPOSIUM
FRIDAY EVENING SOCIAL & LIVE MUSIC
BENEFITING LOCAL PROJECTS

www.kaws.org kaws@kaws.org

Douglas County Conservation District

4920 Bob Billings Parkway, Suite A

Lawrence, KS 66049

Return Service Requested

DOUGLAS COUNTY CONSERVATION DISTRICT

Funding provided by the State Conservation Commission through appropriation from the Kansas Water Plan Fund. All programs and services of the Conservation District are available to anyone without regard to race, color, religion, sex, national origin, age or handicap.

Douglas County Conservation District 785.843.4260, ext. 3

Office Hours: 8:00 a.m. to 4:30 p.m. Monday through Friday

Board of Supervisors:

Jordan Olsen: Chairperson
Lowell Neitzel: Vice Chair
John Bradley: Treasurer
David Brown: Member
MacKenzie Flory: Member

District Personnel:

Randy Winchester, District Manager
Suzy Mooney, Education & Outreach
Jeremy Gaines, Soil Technician

Natural Resources Conservation

Service:

Tim Miller, Supervisory District Conservationist
Suzy Mooney, NRCS Clerk
Brooke Franklin, Natural Resource Specialist
Hannah Pippert, Pheasants Forever

Farm Service Agency

785.843.4260, ext. 2
David Sweany, County Executive Director
Debbie Chappelle, Program Tech
Jessica O'Trimble, Program Tech