GREENE COUNTY SOIL AND WATER

Greene Lines

HEY, HOW'S THE WEATHER?

A Very Rainy Spring!

As many of you have probably noticed, the greater Springfield area has had an extremely wet and rainy spring this year. April 2025 actually broke the record for the wettest April in our area, with a whopping **13.29 inches of rain!** The previous record for wettest April was set in 1945, with a total 12.15 inches of rain. (NWS, 2025)

May was also a noticeably wet month this year, with an averaged total of 7.57 inches of rain recorded in the Springfield area. (NWS, 2025)

Even though our April showers were a bit intense this year, we still appreciate all the rain we can get here in southwest MO!

New District Employee

WELCOME BACK, WILL!

Will Rhodes is now back at the Greene County SWCD as a Shared District Technician. He is happy to be back with the soil and water district and assist landowners in Greene, Polk, and Dallas counties!

Infected Fescue

ERIC MORRIS, NRCS RESOURCE CONSERVATIONIST

Tall fescue is a cool season, perennial grass that is prevalent in Greene County. The KY-31 variety is usually infected with a fungal endophyte which grows within the intercellular spaces of the leaf sheaths, stems, and seeds. The plant and fungus enjoy a symbiotic relationship that is mutually beneficial to both organisms. The fungus has free access to the plant's nutrients and the plant provides a means for the endophyte to reproduce through infected seeds. The fungus, in turn, produces chemicals known as ergot alkaloids that function as chemical defenses, making the plant more vigorous, pest-resistant, drought-resistant and tolerant of many adverse soil and environmental conditions. Often KY 31 tall fescue is the only grass that can survive and thrive in poor conditions. The highest ergot alkaloid concentrations are found in the stem and seed head.

"Fescue toxicosis" is the general term used for the clinical diseases that can affect cattle consuming endophyte-infected tall fescue. The most important in Missouri is a syndrome frequently referred to as "summer slump". Affected cattle appear hot with labored respiration and excessive salivation. Cattle avoid grazing during the day and seek shade or ponds to find relief from heat. External signs in cattle include poor growth or weight loss due to decreased feed intake, a dull rough hair coat caused by failure to shed the winter coat, excessive growth of hair, and decreased milk production.

Economically, producers can expect reduced pregnancy rates, longer breed back intervals and lighter calves at weaning.

"Fescue foot" is dry gangrene of the extremities (usually hooves) that occurs due to narrowing of the blood vessels supplying blood to these distant areas. It generally occurs in late fall or winter when environmental temperatures are cooler. Vasoconstriction affects the hind limbs first. Signs include shifting hind limb lameness and unthriftiness. The affected portions of the hoof will fall off or "slough". Tips of the ears and tail may also be affected.

Several management practices can be used to improve cattle production on toxic endophyte-infected tall fescue. The highly toxic seed heads are selectively grazed when they are immature and moderately digestible. These seed heads can be regularly mowed or chemically suppressed with Chaparral® herbicide.

Providing pasture with a diverse mixture of forage species can reduce the impact of fescue as animals will selectively graze other forages. Interseeding legumes into endophyte-infected tall fescue pastures can benefit animal performance mainly through better diet quality and dilution of ergot alkaloids. Legumes can improve grass-based forage programs by increasing yield, improving quality, improving summer production, and converting atmospheric nitrogen into a form the plant can use, reducing the need for applied nitrogen fertilizer.

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Infected Fescue, cont.

ERIC MORRIS, NRCS RESOURCE CONSERVATIONIST

Replacement with new grass is a long-term solution to the KY 31 problem. Use of tall fescue varieties artificially infected with novel or “friendly” endophyte strains that do not produce toxic ergot alkaloids result in greater average daily gain (ADG), lower body temperatures, and slick hair coats. These friendly endophyte pastures have slightly decreased carrying capacity but overall greater body weight gain per acre than toxic fescue pastures. Stand life of endophyte-free varieties is similar to orchardgrass.

Perhaps the most effective way to avoid fescue toxicosis is to avoid fescue completely during the most harmful times. This is accomplished by moving cattle to warm season grass pastures like Big Bluestem and/or Indiangrass during the late spring and early summer. Summer annual grasses such as sudangrass, sorghum x sudangrass hybrids, pearl millet and teff are warm season forage crop options.

NRCS and The Greene County Soil and Water Conservation District have cost share options available to Convert Infected Fescue to Warm season Grass or to Interseed Legumes into existing Fescue.

Heat Exhaustion vs. Heat Stroke – What's the Difference?

AINSLEY FRIELING, DISTRICT SPECIALIST

Just like cattle, people need to find a way to stay cool in the summertime too! Heat exhaustion and heat stroke are more prevalent in the hot and humid Missouri summers, so here are some quick pointers about the symptoms and differences between the two.

Heat exhaustion occurs when the body is unable to cool itself properly, and the core body temperature is around 100°F (Healthline, 2025). Our bodies naturally cool us via sweating, but when we are in overly excessive heat for long periods of time, sometimes our bodies can't keep up. Some of the symptoms of heat exhaustion are:

- General weakness, fainting, lightheadedness
- Excessive sweating, nausea or vomiting
- Weak but fast pulse
- Cold, pale, or clammy skin

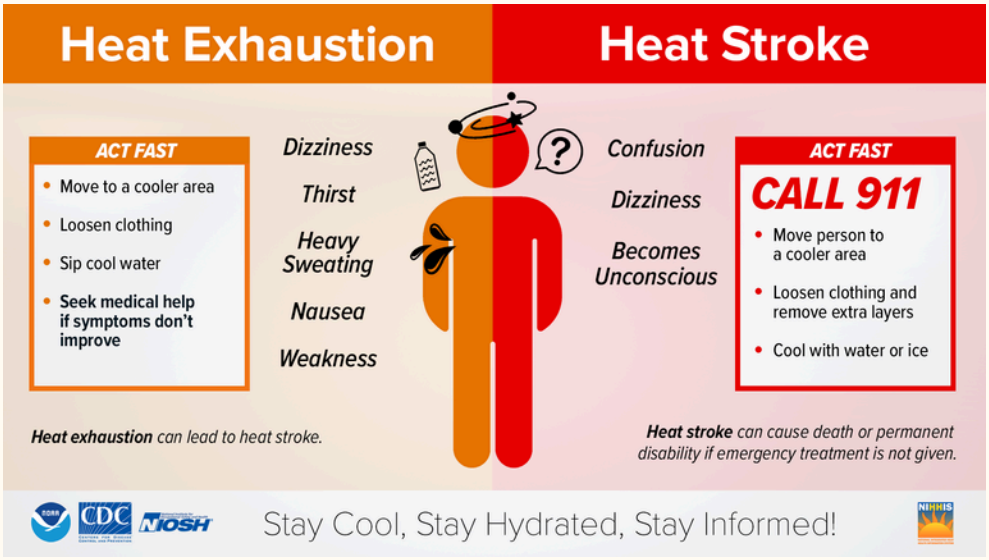
Healthline recommends to move to a cool area, drink water, remove extra layers (like shoes or socks), take a cold shower, etc. to combat heat exhaustion. If you are unable to cool down within 30 minutes, the situation could become a medical emergency.

Heat stroke occurs when core body temperatures reach 104°F or higher. Heat stroke is very dangerous and should be taken very seriously. The symptoms can include:

- Elevated body temperature (104°F)
- Rapid and strong pulse
- Loss or change of consciousness
- Hot, red, dry, or moist skin

If you or someone else are displaying signs of heat stroke, immediately call 911 and move to a cooler location. Heat stroke can be life-threatening. (Healthline, 2025)

All in all, just make sure to watch out for heat exhaustion and heat stroke this summer. Stay cool, stay hydrated, and have fun!



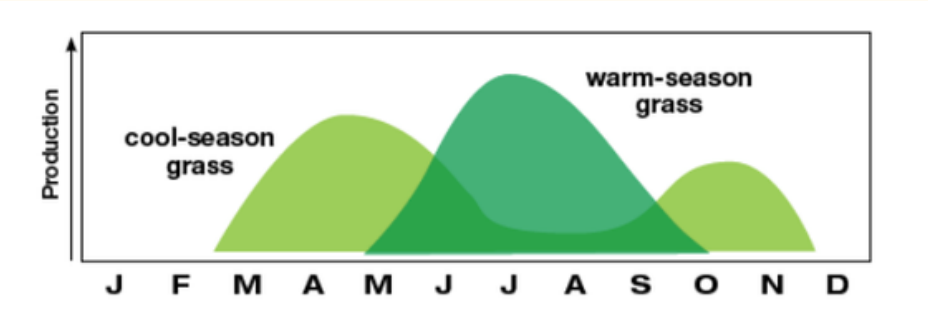
Native Warm Season Grass in Southwest Missouri

ASHLEY NEILL, NRCS SOIL CONSERVATIONIST

Here in the Southwest Missouri area, there has been a rising interest in planting native warm season grass. Cattle producers have benefited from it as another forage source due to its drought tolerance and its growth pattern. When coupled with a rotational grazing system, these grasses provide abundant forage during the summer months. In the southwest Missouri area, pastureland is primarily made up of cool season grasses such as fescue. While fescue is a beneficial forage in that it is high quality and productive, it does have some drawbacks.

During the summer, it does not grow very much, and the endophyte in fescue produces ergot alkaloids that cause cattle to “run a fever.” Both factors can limit production and fescue toxicosis is detrimental to animal health. Adding in warm season grass to the grazing system provides a source of forage that is productive over the summer and lessens the amount of ergot alkaloids consumed by cattle as they will eat less fescue. This also allows producers to stockpile fescue when it begins growing in the fall and graze it over the winter while balancing the energy in fall fescue with the dormant warm season grass.

As the warm season grasses are more drought tolerant, water resources are conserved. These grasses also grow roots that can reach 7 or more feet deep in the soil. This is beneficial because these plants capture and store carbon in the soil. This improves air quality and soil health.



Despite all these benefits, there are barriers to landowners in getting warm season grass established. Pastures must go out of production, the seed can be expensive and controlling weeds before and after planting can be a burden, especially if producers do not have their own spray equipment. Controlling weeds is the most difficult part of getting warm season grass established, and selection and timing of herbicides is very important.

With a cost share program through NRCS, Soil and Water Districts, or Missouri Department of Conservation, cost is less of a factor and helps landowners address resource concerns in a way that is beneficial to soil, water, air, plants, animals, and people. Technical assistance is available through these same organizations and agronomists through the Missouri University Extension Office.

With cost share and technical assistance these barriers are removed, and landowners have been successful in establishing native warm season grass. This allows producers to address resource concerns such as production limitations, animal health, and feed and forage balance in a way that is beneficial to the environment.

Our Productive Pan Soils: Viraton and Creldon

LINDSEY ANDERSON, NRCS SOIL SCIENTIST

Viraton and Creldon soils have a relatively wide mapping extent across Greene County (Figure 1) and are found on ridges and hillslopes with very little slope. The surface horizons of these soils have few rock fragments and have loamy to clayey soil textures, which, combined with the gentle slope, makes Viraton and Creldon some of our more productive soils in the Ozarks and these soils have a farmland classification of statewide importance. However, these soils do have a fragipan (pan, hardpan) that starts at around 20 to 30 inches (Figure 2).

A fragipan, or pan, is a restrictive layer in the subsoil that severely impedes root and water movement. This can create seasonal high water tables in spring months or after heavy rains. Historically, these soils developed under forest vegetation but are used today for pasture, hay, and some crop production. It is also not surprising to see that Springfield and our surrounding towns in Greene County were developed over Viraton and Creldon soils. Settlers would have sought out this gentler ground with relatively productive soil and settled into these areas first.

If you are looking for more information about the soil at your property, you can visit Web Soil Survey (https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm) or stop by the USDA Service Center to learn more.

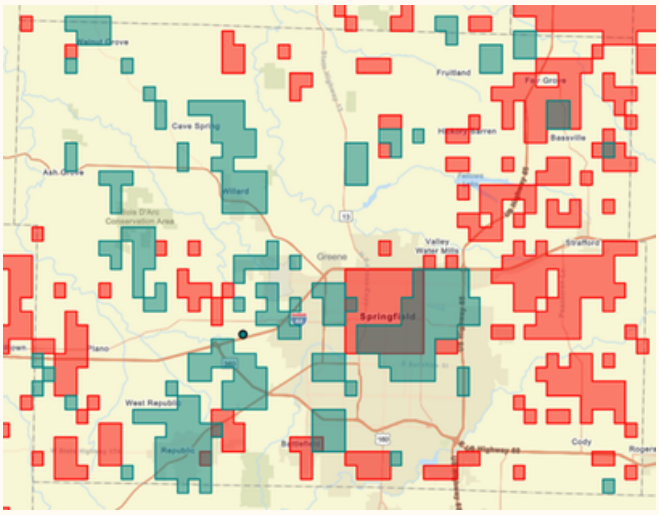


Figure 1. Extent map of where Viraton and Creldon are mapped in Greene County. Shaded red areas represent Viraton soil series and shaded blue areas represent Creldon soil series (Series Extent Explorer, 2025)

Figure 2. Fragipan starting at 29 inches in this profile. Note where roots stop above the pan.

SWCD Rental Equipment

The Greene County Soil and Water District has No-Till Drills, a broadcast seeder, and several other pieces of equipment available to rent! Please contact us to schedule a drill in advance - the drills rent out very quickly during planting season. Here are some quick FAQs about our equipment rentals:

Who can rent equipment from Greene SWCD?
- We only rent to Greene County residents, as per board policy.

How much does it cost to rent the No-Till Drills?
- All of our drills are $12/acre and have a $250 minimum that is due upfront.

What kind of hitch do the drills take?
- The drills take a pintle hitch (provided by the district) with a 2" receiver hitch. A 3/4 ton truck is required to pull the drills.

How do I reserve the drill? Can I rent multiple times a season?
- Yes - you can rent with us any time! Please call our office to reserve the drills. Keep in mind that scheduling during the busy season can be difficult, so you may not get the exact drill or date you want without scheduling in advance.

Contact us today!

HAVE ANY QUESTIONS FOR THE DISTRICT?

Our office is open from 8:00am-4:30pm, Monday - Friday, located in the Springfield USDA Service Center.

417-831-5246 EXT. 3

Check out our website, and follow us on Facebook for district updates!

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