



Stone County Soil and Water Conservation District

www.swcd.mo.gov/stone

June 2019



What are the benefits of healthy soil?

1. **Healthy soil holds more water** (by binding it to organic matter), and loses less water to runoff and evaporation.
2. Organic matter builds as tillage declines and plants and residue cover the soil. Organic matter holds 18-20 times its weight in water and recycles nutrients for plants to use.
3. One percent of organic matter in the top six inches of soil would hold approximately 27,000 gallons of water per acre!
4. Most farmers can increase their soil organic matter in **three to 10 years** if they are motivated about adopting conservation practices to achieve this goal.

COST SHARE: Our new fiscal year starts July for new contracts. Last newsletter we reported on site visits for streambank stabilization for stream banks in need of repair. Cost share policy allows 1 distinct site per year to be repaired with a cap of \$25,000 per site. We are scheduling appointments into July currently for staff & an engineer to visit your site. If in need of a field visit for any resource concern, give us a call to schedule. Reminder, there are 3 grazing schools left for this year after June 11-13 in Christian Co.

Grazing Schools Left This Year: * Sept. 9-11 in Greenfield, MO. Contact Cedar Co. Soil & Water 276-3388 ext.3. * Sept. 17-19 in Marshfield, Mo. Contact Webster Co. SWCD at 468-4176 ext.3. * Oct. 15-17 in Springfield, Mo. Contact Greene Co. at 831-5246 ext. 3. For schools around the state visit www.mofgc.org

TOP 5 BEEF COW COUNTIES IN MISSOURI: Polk—#56,448, Lawrence—#52,362, Texas—#48,991, Barry—#48,103 & Newton—#47,865. The state with the most beef cow operations is Texas with 134,250, followed by Missouri at 48,122. In the four-state region, Missouri was followed by Oklahoma having 46,080 beef cow operations, then Kansas with 23,682 operations and Arkansas at 23,036 operations. While Missouri has the most beef cows in the 4-state region, KS & OK have more total cattle. USDA released 2017 Agriculture Census. Farmers are declining in America, however beef cow operations increased slightly in the 5 yrs. from 2012-2017.

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Our office here in Crane had reported 14.16" of rain for the month of May.



QUOTE: "Great minds discuss ideas. Average minds discuss events. Small minds discuss other people." ~ Socrates

Controlling Musk Thistle

by Tim Schnakenberg

Missouri Statutes state landowners are to control this noxious weed; including but not limited to any person, corporation, partnership, commissions, governing bodies, state agencies, etc. RSMo Chpt. 263.19

"Controlling seed production and spread is critical to getting thistle populations under control. Once the plants start to send up seed stalks, typically May, control becomes very difficult," said Schnakenberg. "And worst of all, the weed can spread to your neighbors." **CONTROL EARLY IN THE SPRING/FALL IN ROSETTE STAGE**

SPRING SPRAY: According to Schnakenberg, early spring is the best time of year to control musk thistle. For musk thistle, herbicides can be used prior to the time buds begin to show a little pink. The product 2,4-D can be applied in the early spring before the head shoot begins to grow. For best results, daytime temperatures should be in the mid 60's or higher and nighttime temperatures no lower than the mid 40's. After the head shoot begins to grow, other herbicides such as Ally, Banvel, Grazon, Remedy or Tordon can be used. Ally would not be the best choice for fescue fields especially if it is intended for seed production," said Schnakenberg.

WEEVILS AT WORK: When to spray musk thistle and whether or not weevils are at work is a common question. According to Schnakenberg, musk thistle and weevils both run biological cycles. "About three to four years ago we had an increase in musk thistle. The weevil populations have increased during that time so weevil populations are high and we should expect a decrease in musk thistle numbers over the next few years," said Schnakenberg. Then, as musk thistle numbers go down, so will the weevil population. "There will come another time when we have another explosion in the musk thistle population like we did in 2006," said Schnakenberg. From the time a little pink can be seen in the bud through the end of July, control should be left to the musk thistle weevil. "When the buds begin to open, the adult weevil comes out of hibernation and lays its eggs on the flower head," said Schnakenberg. The eggs hatch; the larvae bore into the head and destroy the seed. Next the larvae pupate and later emerge as adults and go into hibernation until the next year. If this process is allowed to happen, weevil numbers increase each year until they are high enough to control the thistle.

"If we kill or destroy the musk thistle during this period of time, we reduce the weevil population for the following year and lose the long-term control," said Schnakenberg.

For more information on the musk thistle weevil, contact the nearest University of Missouri Extension Center and ask for guide sheet 4867, "Integrated control of musk thistle using weevils." An informational brochure is also available online at <http://extension.missouri.edu/greene>.

For more information on control, contact: Tim Schnakenberg in Stone County, 417-357-6812. **TIMING IS EVERYTHING**



Is Your Soil Up to Par?

Grazing management comes in all shapes and sizes, or, as Natural Resource Conservation Service Area Soil Health Coordinator Drexel Atkisson, says, it comes in "all heights." Many producers suffered greatly from drought in 2018, which led to a severe shortage of forage and hay.

"The way we manage our pastures greatly effects the soil health," Atkisson says. "Soil health may be summed up by simply how efficient our soil is at receiving and storing rain water and cycling nutrients. Many times last year during our drought, I would show the rainfall simulator and demonstrate how management determines the

amount of runoff during a rain event. **Overgrazed pastures would typically run off 80% of an inch of rain, while well-managed pastures only lost 20%.**

Continued.....

This means if you did not do a good job of grazing management, you only used two-tenths of every inch of rain that fell.” Atkisson says cattle producers can have a dramatic effect on grazing performance and can also impact soil health through their management of pastures.

“Managing for taller grass heights allows the plants to maintain more leaf area,” he says. “More leaf area means collecting more sunlight that will be turned into simple sugars through photosynthesis. Plants leak these sugars from their roots, and we call them exudates. These syrup-like exudates feed the living biology in the soil. In turn, the exudates and biology make what are called aggregates. Aggregates are small soil particles joined together to make little blocks. When the soil is well aggregated it allows water to infiltrate and be stored by the soil organic matter. Good grazing management provides times of rest from grazing that allow plants to recuperate, build root matter and leak energy into the soil.”

Atkisson says rotational grazing is an essential management strategy to building soil health and resilience into your soil resources and thus your farming operation. “Allowing extended periods of rest occasionally during different times of the year favors diversity among the plants present in the pastures,” he says. “Diversity is another essential item to good soil health. Introducing legumes and other species of grasses is always a good idea as long as the grazing management is present to support the survival and longevity of those plants. We expect our soil to do great things for us and supply an abundant supply of forage to our grazing animals. This does not happen without energy. Everything needs energy to function. We are lucky because we have the sun, the ultimate source of all energy. Plants have a perfect mechanism to harvest this energy and turn it in to forage.” An excellent rotational system with higher # of paddocks, allows longer rest periods for recovery & more control over where cattle graze; optimizing production & conservation goals such as sustaining & restoring water quality. “If we want to build soil health, which will in turn allow our soils to receive the rain when it comes, store it for future use and cycle nutrients needed for good plant growth, we must understand it is a give-and-take system,” Atkisson says. “We need to give plants a break; nobody likes to work continually .

It cannot go without saying, if you are overstocked, you are overstocked, and the fix is a trailer. A take-only system is expensive to keep going and has little resilience when adverse weather comes.”

Visit your local NRCS office or Soil & Water abt. upcoming Soil Health Workshops & Grazing Schools.

True Armyworms Have Been Found in the Region

WEST PLAINS, Mo. — True armyworms have been found in grass pastures in south-central Missouri. Farmers should begin scouting pastures, wheat, and corn fields. Dusk or dawn is the best time to scout for the insect because the young larvae feed at night. During the heat of the day, they will hide under plant debris on the ground.

True armyworm larvae are identified by having an orange stripe along each side of the body and a dark spot or triangle on each of the abdominal prolegs located in the center of the body. The head is brown with honeycomb markings.

True armyworms typically feed on grass species; therefore, pastures, wheat, and corn crops are at highest risk. In pastures and wheat crops treatment is justified when four or more non-parasitized, half-grown or larger larvae are present per square foot.

The insect will not only defoliate the plant, but they can clip seed heads as well; for seed crops treatment is justified when 2-3 percent of the heads have been cut. For corn crops, the economic threshold is when 10 percent or more of the plants are injured, and larvae are less than three-quarters of an inch. If threshold levels are observed, farmers should treat the impacted field quickly. Insecticides can be used, or the forage can be harvested by haying or grazing. Natural parasites can impact some true armyworm populations; although, none have been observed in fields scouted to date. Armyworms that have been affected will be dark in color and will be mummified on the plant stalk. The larvae will typically be positioned with the head pointed downward. Scouting should continue to verify the presence or absence of the parasites. Also, true armyworm moths could migrate in and re-infest an area. Farmers can find more information in the MU Extension guide "Management of the Armyworm Complex in Missouri Field Crops" at <https://extension2.missouri.edu/G7115>.

MU Extension agronomist Sarah Kenyon says, "Very high numbers have been observed in portions of Christian, Howell, and Ozark Counties. Farmers should be scouting fields and be prepared to take action."



Missouri Farmers Warming up to Warm-Season Grasses

by:- Linda Geist, University Of Missouri Extension

Barry County producer Lindell Mitchell sees several benefits from year-round grazing of **warm-season Bermuda grass** in his cow-calf operation. Mitchell works with University of Missouri Extension specialists Tim Schnakenberg and Eldon Cole to improve forage and cattle quality. Mitchell and Anderson use several varieties of Bermuda grass.

Bermuda grass is deep-rooted and grows to 24 inches in a variety of soils. In most cases, Mitchell supplements winter grazing with triticale, a hybrid of wheat and rye. He drills triticale into the Bermuda grass in September. Triticale allows grazing after frost and tolerates cold better than many other forages. The triticale's early spring maturity gives cows "optimum groceries" as they lactate. Bermuda grass withstands heat during June, July and August, when the quantity and quality of cool-season grasses wane. Bermuda grass offers timing advantages too. It can be baled at more convenient times and offers nutrition for grazing cows and calves when they need it most. Bermuda grass matures faster than fescue. It can be baled every 30 days after June 1. Fescue harvest, on the other hand, usually begins around the first part of May when rain is more likely to delay cutting before seed heads form. Mitchell often runs the drill behind the baler on the last Bermuda grass cutting of the season around Labor Day weekend. Bermuda grass and triticale work well with the Sandhills calving system used on the ranch. When calving starts, dry cows are moved to pastures of fresh grass, and cow-calf pairs remain. This significantly reduced scours on the ranch during the past five years. "Clean grass makes the difference," Schnakenberg says. An abundant supply of grass makes rotational grazing more efficient. "We try not to waste grass," Mitchell says. "We try not to waste hay." Warm-season grasses require different management than fescue. When used in a management-intensive grazing system, keep Bermuda post-grazing heights high and move cattle off pastures for rest periods. Graze when 6-8 inches high and no lower than 3-4 inches, Schnakenberg says. Consider drawbacks as well, Schnakenberg says. Seeded Bermuda grass can be invasive. Cows may graze grass with seeds that transfer in manure or when hay bales are taken to other areas and unrolled. Army worms also like Bermuda grass. Overseeding with rye or triticale requires extra seeding expense and access to a drill. Sprigged varieties cost more but don't produce viable seeds. Schnakenberg recommends that producers switch small numbers of acres to warm-season grasses to experiment and reduce risk. Amazingly, G & J Anderson Ranch uses a 1 to 1.5 cow per acre stocking rate. This is higher than most standards but works well with the ranch's management practices. "We're getting all the pasture forage we want and still can cut hay," Mitchell says. Mitchell says he succeeds with the advice from Schnakenberg. "I value what Tim tells me. He's my go-to. I call on extension quite regularly," Mitchell says. "Gary Anderson, Lindell Mitchell and his family are top-end, progressive producers," says Schnakenberg. "They stay on the cutting edge in their industry."

Visit the NRCS + MU Grasslands Project website at NRCS-GrasslandsProject.missouri.edu (opens in new window) or contact an MU Extension agronomy specialist for more information.



**Tim Schnakenberg, Univ. of Mo.
Extension & Lindell Mitchell,
Producer in Barry Co.**

Download MU Extension's free guide about Bermuda grass at extension.missouri.edu/p/g4620.

Web Soil Survey: A Tool for Your Working Land

Nearly all farmers, ranchers, and forest landowners across the country rely on one common resource for production: their soil. If you're interested in learning more about this medium that grows our nation's food, fuel, and fiber, here's a tool to help.

What is Web Soil Survey? [Web Soil Survey](#) is the largest public-facing natural resource database in the world. Whether you manage 10,000 acres or measure your land in square feet, you can use WSS to learn more about your soils through customizable maps, properties, and interpretations – all free and downloadable.

Why was Web Soil Survey created? The [Natural Resources Conservation Service](#) released WSS in 2005 to provide better public access to national soils data and mapping. It is meant to provide general information – such as soil type and basic properties – to more complex data and interpretations.

How can I use Web Soil Survey?

WSS is available 24 hours a day, 365 days a year. You don't need to create an account – just [visit this page](#) and get started today.

You can also [visit your local service center](#) if you'd like one-on-one support. There, an expert from NRCS can walk you through the tool and personalized applications for you.

When using WSS for the first time, it's helpful to start with a question. Are you looking to purchase new land and interested in productivity? Curious about farmland classifications? Unsure of expected erosion hazards across your operation? Or, maybe you're just interested in learning more about the basic properties of the soil in your backyard.



NRCS, Partners Invite Farmers on Hay and Pasture Walk—June 25th in Warren Co.

COLUMBIA, MO, June 4, 2019 -- **Nationally known grazing specialist Pat Keyser, an Institute of Agriculture Professor at the University of Tennessee, will be speaking during a hay and pasture walk beginning at 3 p.m. Tuesday, June 25, in Warren County.**

The event will begin at the farm of Harry Cope, about two miles south of the town of Truxton on Winters Road (follow signs to field). At that stop participants will see a newly established warm-season grass field with native forbs that is being grazed. Keyser will discuss establishing and managing warm-season grasses and forbs for grazing.

The next stop will be at Bob Ridgley's farm at High Hill to observe a 23-year-old stand of Eastern Gama Grass in his grazing system. There will be a soil pit to allow participants to see what has been taking place below the surface. David Doctorian, Soil Health Specialist with the USDA Natural Resources Conservation Service (NRCS), and Mark Abney, NRCS Assistant State Soil Scientist, will discuss soil health. Dan Bockhold, NRCS Engineer, will talk about a cattle-feeding barn constructed with NRCS financial and technical assistance that Ridgley uses to feed out calves.

A wagon tour of the Ridgley farm will show land that was previously in the Conservation Reserve Program and has been converted to a rotational-grazing system. A representative of the Missouri Department of Conservation will talk about the wildlife benefits of these systems.

The event will conclude with a BBQ burger dinner prepared by the Callaway/Montgomery Cattlemen's Association. The cost to attend the pasture walk, including dinner, is \$5. **[RSVP by June 14 by contacting the Warren County USDA office at \(636\) 456-3434 x3.](#)**

This event is sponsored by NRCS; University of Missouri Extension; the NRCS+MU Grasslands Project; Quail and Pheasants Forever; and the Lincoln, Montgomery, Pike and Warren soil and water conservation districts. Anyone needing an accommodation to participate should contact Tammy Teeter by June 10 at (573) 564-3715 x3 or email tammy.teeter@usda.gov.

STONE COUNTY SOIL & WATER CONSERVATION DISTRICT

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Washington, D.C. 20250-9410;**
- (2) **fax: (202) 690-7442; or**
- (3) **email: program.intake@usda.gov.**

Regrowth Fescue Offers Potential Hay Baling Time for Beef Cow Herds

Duane Dailey, University Of Missouri Extension May 29, 2019

A long-delayed spring grass-growing season with frequent rains didn't give days for making hay. Regrowth season just ahead holds promise, says a University of Missouri forage specialist. Craig Roberts looks to the cool-season grass slump ahead to be productive. That depends on weather staying warm and wet but not droughty.

Livestock farmers with grazing herds need better days ahead. After more than two years of bad-hay days, they must refill hay sheds.

Warmer days and nights with rains can make grass regrow, Roberts says. A cold spring didn't give many days with 70-degree average temperatures needed to make grass grow. Too many days had 40-degree lows that cut temperature averages.

As a result, grass grew short leaves and sent up long-stem seed heads.

That didn't provide good grazing, nor did it provide hay.

Long-term-outlook weather maps show warmer weather and nearer normal rainfall. Recent long-range weather maps covering the usual summer slump period don't show droughts ahead.

The unusual recent weather has provided leading topics in the weekly teleconferences among MU Extension agronomists.

Good regrowth depends on having seed heads removed. With seed stems gone, new growth will be in haymaking leaves.

Removing seed stems improves forage quality, Roberts says. Stems contain low energy. Removing seed heads cuts toxins in K-31 fescue, the most used grass in Missouri. However, grass leaves will contain some ergovaline, one of the fescue poisons. The hay will be better.

Regrowth isn't as productive as the spring surge of forage growth. The second growth gives moderate nutrition, as it doesn't contain seed stems. Regrowth provides needed hay for winter feeding.

It won't be high-quality "horse hay," Roberts says. "It meets needs of beef herd owners."

The key to success is having seed heads removed on spring growth.

If frequent rainy days thwart hay-drying days, baleage can store high-moisture forage. Grass too moist to cure for hay can be wrapped in plastic to ensile and store.

Roberts warns that baleage made from toxic fescue will remain toxic. Ensiling preserves toxins. On the other hand, drying and baling toxic fescue hay cuts toxin in half.

The longer toxic fescue is stored in bales, the fewer toxins will remain.

Stockpiling cool-season fescue for grazing into the winter allows saving the bales for late-winter feeding. It is less harmful then.