



Stone County Soil and Water Conservation District

www.swcd.mo.gov/stone

Aug. 2021



What is an SWCD? Soil and Water Conservation Districts (SWCD's) are special purpose local not for profit public entities that manage and direct natural resource management programs at the local level.

SWCD's work with landowners and other units of government to carry out a program for the conservation, use and development of soil, water and related resources. Our role is in providing our services to owners of private lands in ag production for the purpose of protecting and improving our natural resources. SWCD's provide a variety of conservation programs that provide financial support in implementing those along with technical and educational efforts. Stone Co. SWCD has been serving in the county since 1965. The District operates under a Board of four elected landowners and one county extension director. The effects of soil erosion were recognized during the 1930's as the Dust Bowl devastated the nation. Hugh Hammond Bennet cited the rapid soil loss occurring in Mo. in an address at a 1933 Farmer's Week Program at Ohio State University. In that address he mentioned that an experiment station near Bethany, MO in 1933, had 106 tons of soil lost per acre on a site where corn was cultivated. The loss of that significance had the potential to remove 7" in 3-12 years which there would have taken it down to clay subsoil reducing corn production down to 17 bushels of corn whereas the original soil would have produced 50-75 bushels per acre. The negative effects of erosion in Mo. quickly became very evident and hard to ignore. Mo. had one of the highest rates of erosion in the nation at a rate of 10.8 tons per ac. each year on cultivated cropland in 1982. **Missouri voters passed a one-tenth-of-one-percent tax in 1984 & has since been reapproved by voters. This tax is called the Parks, Soils and Water Sales Tax.** The tax funds benefit the Dept. of Natural Resources, Soil & Water Conservation Program and Mo. State Parks. This is how the SWCD's can operate and offer voluntary programs to landowners to conserve soil and water resources for future generations. With 50 different practices across the state of Missouri, SWCD's can help farmers and landowners with a variety of common issues. The Stone Co. SWCD also receives support from our local County Commissioners in helping us to help you in helping the land. Partnerships are a vital part of who we are, who we work with and who we serve.

If you are experiencing any natural resource concern on your land or want to inquire about best management practices that can benefit you and your operation give us a call, we'd be happy to make a farm visit and further evaluate and/or point you in the right direction.

Meet our Staff: Brett Schellen started with Stone Co. SWCD in Oct. 2020 as our District Technician. He is making farm visits and would be working with you in your conservation planning, design and mapping. We want to provide you with the best information possible so as you can make the best informed decision for your operation; to address the concerns and make your operation more productive and profitable.

Melissa White has been with Stone Co. SWCD since Feb. 2007 serving as the District Manager overseeing programs and funding of the District.

Board of Supervisors: Larry Israel, Jerry Youngblood, Tim Schnakenberg, Latishia Clark & Diane Asher.

Our Function: to take available technical, financial and educational resources, whatever their source, and coordinate them so that they meet the needs of the local land user for the conservation of soil, water & related resources.

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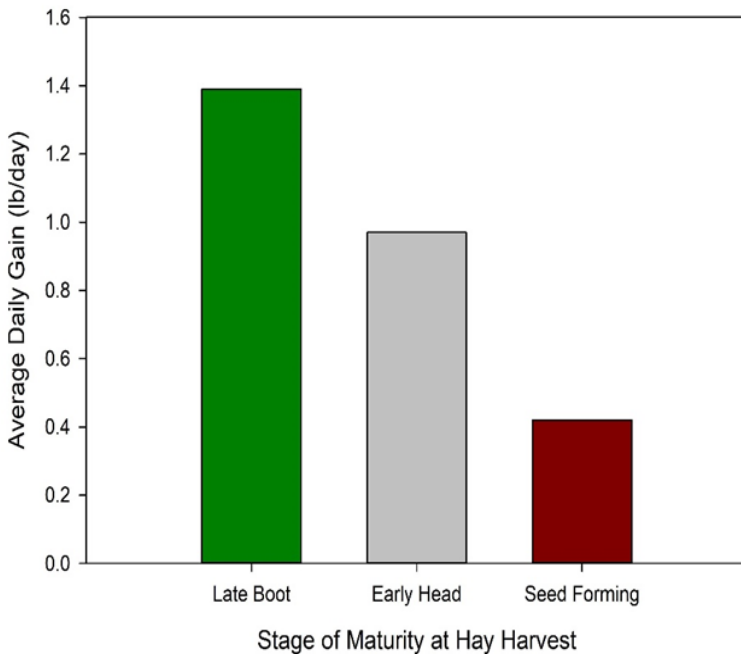
Come by our booth @ Broiler Festival to register for door-prizes- \$25 Gift Certificates

Our office here in Crane had reported 3.26" of rain for June, 4.3" for July and .375" as of Aug. 18th.

Hay Testing: Figuring Out What You Have and What to Do with It!!

By: Chris Teutsch, Forage Extension, UK

The single most important factor impacting forage quality is stage of maturity at harvest. When harvest is delayed, forage quality decreases rapidly. You are probably saying to yourself "those guys from the university are exaggerating how much delayed harvest decreases hay quality". Take a look at a study that was conducted at the University of Tennessee with tall fescue hay harvested at the late boot, early head, and seed formation stages. Crude protein, digestibility, and dry matter intake were all decreased. This resulted in a lower quality forage that the animal could eat less of. In this study, average daily gain of the steers were decreased by almost one pound per day (Figure 1)



Plentiful rain and poor curing conditions in the spring often delay first cutting hay harvest. In some years, we just can't avoid putting up some lower quality forage, but we do need to think about feeding strategies for that lower quality hay that will help to keep brood cows in good condition. The first thing that we need to do is to figure out the nutritional value of the hay that we have in the barn. This is done by sampling your hay and sending it in for analysis. Getting a representative sample of each hay lot (harvest and field combination) is critical.

Figure 1. Average daily gain of Holstein steers fed tall fescue hay harvested at the late boot, early head, and seed formation stages. Adapted from a study conducted at the University of Tennessee (Personal Communication, Monty Montgomery, University of Tennessee).

Using Your Hay Test Results

Hay testing by itself is worthless if you do NOT use the results to make management decisions. In fact, if already know that you are NOT going to use your results to change how you feed or supplement your hay, then don't waste your time and money taking a sample. Once you get your results back, you will need to determine if the hay will meet the needs of your cows at a given production stage. Animals that are growing or lactating have a higher nutritional requirement than dry cows in mid-gestation (Table 1).

Table 1. Nutritional requirement of various livestock classes.

Animal Class	Total Digestible Nutrients (%)	Crude Protein (%)
Growing steer @ 1.5 lb/day	65	12
Growing steer @ 1.7 lb/day	68	11
Lactating beef cow	60	11
Dry beef cow	50	8
Lamb finishing	70	12
Lactating ewe	65	13
Dry ewe	55	9

Adapted from Southern Forages, Third Edition.

Hay Test Example: The results found in Table 2 below clearly indicate that this hay will NOT meet the nutritional requirements of a fall calving cow that is lactating. This hay will need to be supplemented in order to maintain body condition and production. The question then becomes with what and how much? The UK Beef Cow Forage Supplement Tool is an application that can be used on-line or down loaded to your smart phone. This application allows you to enter the results from your forage test (dry matter, neutral detergent fiber, crude protein, and total digestible nutrients) and gives you a range of supplement options and how much of each supplement must be fed to meet the cow's nutritional requirements (Table 3). The UK Beef Cow Forage Supplement Tool can be found on-line at <http://forage-supplement-tool.ca.uky.edu/>. This application indicates that the hay found in Table 2 would need to be supplemented with 10.6 lb of soybean hulls daily.

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Table 2. Hay test results.

Sample: Chicken Lot

Constituent	%	Dry Matter Basis	
		As Fed Basis	%
Dry Matter	89.8		
Moisture	10.2		
Crude Protein		8.6	7.7
Acid Detergent Fiber		42.3	38.0
Neutral Detergent Fiber		66.3	59.6
Total Digestible Nutrients		53.0	47.6

Table 3. Results from the UK Beef Cow Forage Supplement Tool for the above hay sample.

UK Beef Cow Forage Supplement Tool

Calculation Results

Lactation

Crude Protein: 8.6%

NDF: 66.3%

TDN: 53.0%

Expected daily intake of this forage for a 1250 lb cow is 1.81% of body weight, or 23 lbs on a dry matter basis, or 26 lbs on an as fed basis.

Protein	Supplement	Recommended Amount
8.5%	Corn (6 lbs max)	N/A
11%	Soyhull (16 lbs max)	10.6 lbs
13.75%	75% Soyhull / 25% Gluten (16 lbs max)	8.5 lbs
13.85%	85% Soyhull / 15% DDGS (16 lbs max)	8.5 lbs
14.6%	67% Soyhull / 33% Gluten (16 lbs max)	8 lbs
14.8%	80% Soyhull / 20% DDGS (16 lbs max)	7.9 lbs
15.75%	75% Soyhull / 25% DDGS (16 lbs max)	7.4 lbs
16.5%	50% Soyhull / 50% Gluten (16 lbs max)	7.1 lbs
22%	Corn Gluten Feed (Gluten) (8 lbs max)	6.2 lbs
30%	Distillers Dried Grains w/solubles (DDGS) (8 lbs max)	5.7 lbs
50%	Soybean Meal (4 lbs max)	N/A

It is important to realize that both hay testing and the UK Beef Cow Forage Supplement Tool are NOT perfect. They are designed to get you in the ball park and let you know if there is going to be a real problem with the hay that you are feeding. The true test is how your cows perform on a given hay lot. As in most situations in life, it is always better to be proactive rather than reactive and hay feeding is no different. So, don't wait until your cows' loose condition before you get your hay tested!



State Cost Share Conservation Practice

Grazing System—Permanent Tire Tank Waterer

Contact the Stone County SWCD about cost share available for planned grazing systems. Components for well drilling, pipeline, tanks and fencing. Attendance in a southwest regional grazing school is required.

LATE SUMMER SOIL FERTILITY MANAGEMENT—FORAGES

Matt Herring, Field Specialist in Agronomy

GOALS OF FORAGE PRODUCTION: Provide quality forage, consistent forage quantity & provide it economically.

Late Summer/Fall Fertility Activities

- Soil Testing
- Stockpiling tall fescue
- Phosphorus and potassium management
- pH management –liming
- Legume
- Manure/litter applications

Soil Test, one of the greatest returns on investment for making management decisions.

Nitrogen for Tall Fescue Fall Pasture

Fall fertilization for pasture: apply nitrogen typically in mid August, increases and extends fall forage for winter feeding. For Toxic Endophyte infected fescue: 40lbs. N/acre and for Novel endophyte infected fescue: up to 80 lbs. N/ac. can be applied.

Nitrogen Sources: Don't use coated urea (ESN)

- Ammonium nitrate, ammonium sulfate, urea with Agrotain all about equal
- Active ingredient in Agrotain is NBPT, now off patent, other brands available & probably effective
- Additives without NBPT are either ineffective or inconsistent. **I'm skeptical of foliar sprays and low-rate products**

Phosphorus (P) & Potassium (K): Need is revealed thru soil testing, much is removed in hay, test levels are low in many fields. For 3 ton fescue hay removal, removing abt. 52lbs.P & 135lb. K. On fescue pasture at 3 ton/ac., removing 10lbs. P and 5lb. K. Both P & K are important to increased yields of all legumes. Increased clover in the stand = higher quality feed & better gain. With P & K improvements it discourages broomsedge and with proper PH correction, that too encourages clover and discourages broomsedge. Proper PH affects nutrient availability to the plants. The desired PH range for cool season grasses is 5.6-6.0 and clover and common lespedeza 6.1-6.5, alfalfa 6.6-7.0. Lime raises the soil PH and makes those nutrients more available; follow a soil test for needed amendments. Legumes improve quality of forage, have rhizobia bacteria to fix nitrogen & dilutes toxic endophyte infected fescue. Manure & litter are good sources of nutrients, hauling distance can be a factor; testing will guide decisions on application rates. A manure/litter analysis is recommended to know what it offers.

How is the Dust Bowl related to soil health?



During the 1930s, deep plowing and management methods in addition to severe drought conditions caused the southern plains to be devastated by huge dust storms. Congress passed a law that recognized that “the wastage of soil and moisture resources on farm, grazing, and forest lands...is a menace to the national welfare.” The Soil Conservation Service was established and is now the Natural Resources Conservation Service (NRCS).

HAVING STREAMBANK PROBLEMS?

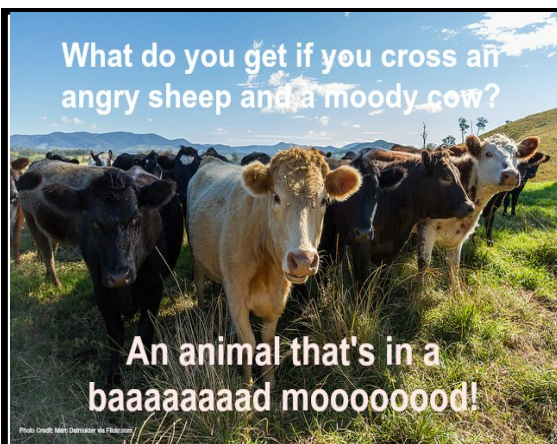
Streambank Stabilization: Protects banks from accelerated erosion and provides adequate streambank vegetation while improving water quality. This cost share practice applies to agricultural land along streams where streambank erosion problems exist. **Cost Share does cap at \$25,000 per landowner and/or farm annually. This year our cost share state average cost for rip rap for streambank stabilization has increased to reflect more of the true cost for >12" rock. This is a huge help to landowners who need to address this problem.** If you would like for us to take a look and / or revisit your pricing from a past quote to see how the new pricing can help you, give us a call 723-8389.



Exclusion Fencing: If you are interested in protecting your streams by excluding your livestock, then we have a practice for that as well. (WQ-10) If by doing so, this removes their watering source, we can provide water for you inclusive of pipeline & tanks and well if not one on the place. This practice cost shares too on the fence and energizer. There is also a one time \$500 /ac. incentive for those out of production acres. You may also have limited access to this area for grazing and or limited watering if we need to look at this. Options are available in the planning and to include crossing if need be.

Riparian Buffer: A water quality practice the reduces excess amounts of sediment, organic material, nutrients & pesticides in surface runoff & reduce excess nutrients & other chemicals in shallow ground water flow with a secondary benefit of streambank stabilization. Applies to areas adjacent to permanent or intermittent streams, natural wetland & public drinking water reservoirs. Again development for a water source can be cost shared on when excluding the stream from livestock. A one-time out of production incentive applies at \$1200/ac. Tree planting must be planned.

Spring Development: This practice applies where livestock have free access to a spring or seep and the development will provide a dependable supply of water for distribution. Cost share on pipe & trenching from the end of the collection point to the livestock watering tank, including the outlet pipe; 300 ft. or less unless warranted for >300ft. The spring area itself is then excluded from livestock.



Come see us at this years Crane Broiler

Festival. Stone Co. SWCD has a booth every year. We will have our laptop with us to view your property & discuss your needs. Put your name in for free door prizes. We have #5 gift certificates (2 vendors) for \$25 each.

STONE COUNTY SOIL & WATER CONSERVATION DISTRICT

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CRANE, MISSOURI 65633
PHONE: 417-723-8389; www.swcd.mo.gov/stone

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Crane, MO

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(866) 632-9992. Submit your completed form or letter to USDA by:

- (1) **mail: U.S. Department of Agriculture
Office of the Assistant Secretary for Civil Rights
1400 Independence Avenue, SW
Washington, D.C. 20250-9410;**
- (2) **fax: (202) 690-7442; or**
- (3) **email: program.intake@usda.gov.**

Improve Forage Production Through Grazing Systems with Cost Share Programs

The importance of improved forage production efficiency has never been greater. Forage producers who own livestock must understand the interactions between the forages they produce and the nutritional needs of their livestock. Coordinating all resources- inputs and outputs- provide the best opportunity for success.

The **Stone County Soil & Water Conservation District** is available to assist landowners in developing conservation plans to address issues affecting forage productions. Such issues include soil loss and water quality, much needed establishment or improved upon management intensive grazing systems, pest control and better utilization of a nutrient management plan based on soil test results.

Through properly **managed grazing systems**, research has shown these systems can improve forage utilization from 35% to as much as 75% when compared to open continuous or traditional grazing systems.

We have the opportunity to work with landowners in technical planning and implementation of such systems. The plan will outline strategies that will help reduce the need to feed stored forages, utilize stockpiled forages, better weed/brush control, better distribution of manure for naturally fertilizing the plants, rotating livestock giving the forage ample rest for recovery, better handling of the livestock and cost share monies for system components involving fence and water. To receive cost share, a landowner must have attended a regional management-intensive grazing school. Call us for any assistance or information at 723-8389.

Grazing School Calendar for the remaining year:

Sept. 1-3 Greenfield, MO Contact Barton Co. Extension at 417-682-3579

Sept. 14-16 Strafford, MO Contact Greene Co. SWCD/NRCS at 417-831-5246 ext. 3

Sept. 27-29 Stockton, MO Contact Cedar Co. SWCD at 417-276-3388 ext. 3