Kerr County Soil & Water Conservation District

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Meet Sid! I've hidden him inside this Newsletter. The first person to find him and post it on the Kerr County SWCD's Facebook page gets a prize!

~Missie Dreiss, Kerr County SWCD District Technician

Congratulations to our 2021 Scholarship Recipient!

Makayla Waiser is a graduate of Tivy High School and is currently attending Texas A&M University. Makayla's goal is a career in Agriculture Leadership & Development and she is well on her way to achieving just that! She has received the President's Volunteer Service award, and is a member of a group through Texas A&M called ***Future Agriculture & Life Science Leaders*** where she learns how to advocate for agriculture. In her ***World Food and Fiber Crop*** class, she was exposed to many different scientific projects and theories. "One of the topics that I thought was interesting was the idea of creating genetically modified plants that will fix nitrogen in the soil as soybeans do. This really opened my eyes to what is possible with the technology and information we have today. Through this class, I have been able to see the gap between what science has discovered and what the average person knows about agriculture. I hope to use what I learn in classes like this to teach others about agriculture and be a part of creating solutions to the many problems our world is facing.", says Makayla. "It is hard to find youth that are willing to put the good of the people over themselves, but that describes Makayla." says Kerr 4-H Agent, Jennifer Smith and all of us in the SWCD office would have to agree!

KERR CO. SWCD NEWS

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Grazing Management

Balancing Forage Demand with Forage Supply

One of the first priorities for proper management for rangeland resources is balancing animal forage demand with forage supply. Balance between stocking rates and forage supply is necessary for the effective conversion of forage for animal production and maintaining future rangeland production capabilities. Grass serves as the foundation for all livestock and or wildlife enterprises. The "state-of-health" of that resource will directly influence short-term cash flow and sustained ranch productivity.

Land managers mush understand and utilize techniques that constantly monitor the condition of the forage supply and how it is affected by past and present grazing management decisions.

Proper Stocking Rate

Many land managers have used the same stocking rate for years with adjustments made only when forage supplies are depleted and feed costs prevent maintaining the current herd size. This has caused severe damage to the rangeland resource and reduced the overall forage production available to livestock and wildlife, as well as other resources. Because forage production varies significantly from year to year, the proper stocking rate should differ as well.

How Much Forage Do I Need?

When grazing occurs, forage is eaten, trampled or dropped. Under moderate grazing, research indicates an intake efficiency of 50 percent. So, for each pound eaten, a pound is returned to the soil surface as litter. This is important for protecting the soil from erosion.

USDA Natural Resources Conservation Service
United States Department of Agriculture

TXGLC Texas Grazing Land Coalition

Animal Unit Equivalents

One Animal Unit (AU) = 1,000 lb. animal. This unit of measurement is used in forage inventories to estimate Animal Unit Equivalents (AUE). One animal unit will consume 30 pounds of forage (air dry weight) per day, but under moderate stocking will waste an equal amount. Therefore, a total of 60 lbs. per day is required. Suppose you have a herd of cattle with an average weight of 1,200 lbs. each. The Animal Unit Equivalent (AUE) =1.2 x 30 lbs. = 36 lbs. daily consumption with a total forage harvest of 72 lbs. per day.

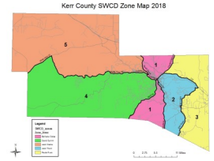
Harvest Efficiency

Keeping in mind the "Take Half-Leave Half" rule, a pasture that produces 2,000 lbs. per acre would have only 500 lbs. per acre consumable forage. Thus, a Harvest Efficiency of only 25 percent should be considered when setting stocking rate.

Grazable Acres

The next step is to adjust for "grazable acres". Grazable acres are those acres that are accessible to livestock. Many acres on a ranch are ungrazable such as steep slopes, heavily infested brush areas, ponds and lakes, roads, etc. These areas must be accounted for when setting the stocking rate.

Kerr County SWCD Zone Map 2018



Harvest Efficiency Formula

2,000 pounds	X	.25	=	500 lbs./ac.	10,950 pounds	(divided by)	500 lbs./ac	=	22 ac./AU
↑ Forage Production Per Acre		↑ Harvest Efficiency		↑ Consumable Forage	↑ Animal Unit (AU) Annual Intake (30 lbs air dried/ day)		↑ Consumable Forage		↑ Acres/ Animal Unit

Compensate for Percentage Grazable Acres:

Let's estimate 30 percent of the ranch is "ungrazable" due to dense brush, Topography, roads, headquarters, etc. (17 Ac/ AU) / (70% Grazable Acres= 24.3 Ac/Au Stocking Rate.

***Not compensating for percent Grazable acres is the most common mistake in setting stocking rates and can lead to overstocking and overgrazing.*

Drought Management

Grass Growth & Drought

Drought plans are essential in all grazing operations. One should follow a written plan that details what will be done, when it will be done and how many animal numbers will be reduced.

"Rule of Thumb"...if you have received less than 50 percent of the mean average precipitation for the months leading up to July 1, then you can be certain that you are not going to have a good grass production year. This means its time to make an adjustment to get projected forage supplies and animal numbers in balance. Delaying these adjustments will adversely affect both the rangeland and your financial resources. Forage availability should be evaluated in the fall and livestock numbers adjusted before spring.

Your annual stocking rate should be high enough to allow financial survival, but low enough to sustain or improve your overall rangeland resource. Short-term profits might be reduced, but the rapid recovery following drought periods allows increased net cash flow without having to pay off a debt.

During Drought, its critical to evaluate forage availability in relation to livestock carrying capacity of rangeland. Hard management decision have to be make during drought and sometimes selling off cattle or moving cattle to another location with forages are the only options. Remember, drought stricken pastures can take a few years to recover their pre-drought forage production.

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Rangeland Management

Facts, Principles, and Techniques

USDA Natural Resources Conservation Service
United States Department of Agriculture

TXGLC
TEXAS GRAZING LAND COALITION

Importance of Soil Health: Improving and Maintaining

By Christian Hopkins NRCS, Rangeland Management Specialist

What is Healthy Soil? It's fair to say, plants requiring water, sunlight, and soil to grow is common knowledge. Of these three, soil, is taken for granted and often overlooked. According to Eric Brevik of Dickinson State University's Natural Sciences department, "The first definitive mention of soil health appeared to be in 1910". He goes on to state it was not a frequent topic in literature until the 1990's and discussion of soil health increased considerably in the 2000's. Lets dig deeper!

The top layer, known as the O horizon, is where many minerals and nutrients are broken down and absorbed. Natural occurring processes such as sedimentation, deposition, and carbon decomposition increase soil health and help shape the O horizon. This soil layer also helps stabilize soil temperature and helps retain soil moisture. A common resource concern we find at the surface is sheet, rill or wind erosion. Increasing vegetative cover is the best way to combat erosion. Best management practices such as rangeland seeding and grazing deferment can help promote above ground plant biomass and decrease the amount of bare ground.

Another important component of soil health is pore space. Soil pores are the lungs and circulatory system of the soil. It is also where many biological highways exist that are used by microorganisms. Earthworms tunnel through these areas creating increased rates of air and water infiltration. Earthworms excrete byproduct (waste) in the soil that also increases soil aggregate stability. NRCS soil specialists say "Protozoa, mites, nematodes, and other organisms "graze" on bacteria or fungi; prey on other species of protozoa and nematodes; or both graze and prey. Grazers and predators release plant-available nutrients as they consume microbes". A healthy soil organism habitat will be dark in color, displays a variety of root growth and should have soil biota present. The primary resource concern addressing soil pore space is compaction. Whether it be from livestock traffic or farm equipment, compaction decreases water infiltration, decreases aggregate stability, and can decrease soil organism habitat.

Agricultural operations in the Texas Hill Country can benefit financially and environmentally by keeping the soil healthy. A healthy soil is high in organic matter, well structured, full of life, and covered all the time.

NRCS. 2004. Soil Biology and Land Management. Soil Quality – Soil Biology Technical Note No. 4 Pg. 4

https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052489.pdf

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