



**August 2020**

Victor Shelton, NRCS State Agronomist/Grazing Specialist

According to the calendar and the weather, it's August but it seems odd with no state fair. I won't dwell here but will state a familiar cliché that I look forward to being true; “this too shall pass.”

The last issue was a special edition and I want to thank all that emailed me afterwards. Your comments were greatly appreciated, and I have enjoyed them as they continue to trickle in.

Distribution of rain never seems fair, especially when you are on extreme ends of it. I greatly appreciate the rain that I've received and am pleased with good regrowth.

It certainly has been a good year for red clover and timothy. I thought I had a tremendous take where I had frost-seeded back in February, but fields not seeded were almost as good. The clover has rebounded after grazing events better than the grasses under the drier conditions. With even just spotty rains, forages, including the grasses, are slowly rebounding after grazing events, especially where cover and good residual live vegetation has been maintained. Having some warm season grasses to fall back on certainly has helped.

When it is dry like it is, you want to capture as much rain as you can during each precipitation event. You might think that since the field is covered with forages there is no erosion, but that is quite often not the case. You want water to infiltrate into the soil and soil profile. This water is then stored in the soil with some of it slowly moving downward to below ground aquifers to replenish our wells. What are a few of the factors that impact water infiltration? First of all, it needs something to slow the water down once the raindrop hits the surface. That could be a leaf, a stem, or residue on the soil surface; ideally that impact is not on bare soil. The more live plant cover and residue present, the less the impact of the raindrop. The average raindrop is about 3/16 inches in diameter and travels up to 20 miles per hour. That is good amount of impact when it hits the earth's surface and if it hits bare soil, it will dislodge particles and move them.

Once the raindrop momentum has slowed for a moment, it should move downward into the soil. Residue on the soil surface helps to slow it down, then depending on the soil type, the water will start moving downward unless there is a non-permeable layer. A roof or road certainly is non-permeable and most or all the water will run off that surface. A soil that is compacted will also have increased water runoff. Organic matter content in the soil and the natural structure, or lack of, also influences infiltration. Percolation rates of soils can be measured. A good healthy soil should be able to take in at least two inches or more of rain per hour.

When the rainwater drop's impact isn't slowed by vegetation or residue and infiltration is poor, runoff is inevitable and it builds momentum as it travels down slopes, especially steep ones. As it travels it has more opportunity to pick up and move more soil particles. Where the runoff concentrates, ephemeral gullies start to form and if not improved, they will eventually form gullies. Not only did we lose precious water that is needed for forage growth, we have also lost soil and perhaps also an inconvenience to work around.

That was a long rabbit trail, but it certainly needed to be ran. The short of the long is this: we want more water to soak into the soil and less runoff to more efficiently use rainwater and reduce erosion. Easy, maintain good retardance with good live cover with deep growing roots and reduce any operations that might increase compaction.

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The livestock have been very content with the forage consumed this season. I've noted before that forage quality, especially energy, is often better under good or slightly dry conditions rather than wet, especially extended wet conditions. Usually, higher sugar levels will exist under droughty conditions. Samples may also show higher neutral detergent fiber digestibility (NDFD). Higher sugars and NDFD will contribute to net energy for gain or lactation.

On the other side of that, where higher amounts of nitrogen have been added, nitrates can also be higher in some drought-stressed forages. They may also be higher in prussic acid, especially sorghum Sudan's, Sudangrass, and Johnsongrass. If in doubt or concerned, test before grazing. If it is wilted, it is probably safer to wait. Rains have been timely enough in most areas for this to not occur, but it is best to keep a watch on it.

Droughty conditions also usually tend to include higher temperatures and when you get a little shower, the humidity raises quickly. That certainly makes me want to sit under a tree in the shade with a nice cold drink. Shade becomes important once the heat index reaches 85 degrees or higher for most livestock.

The next important factor is daytime to nighttime temperature differences. If temperatures are close to 20-degrees cooler at night, this allows for a good cooling off period. When this doesn't happen and there is no break from the heat, heat stress starts showing up quickly. You will begin to notice increased water consumption, increased chance of wallowing, and reduced intake of forages. There are some who say that cattle will eventually adapt; I don't buy that. I think shade should be available in at least a third or half of the paddocks.

I've actually moved cattle to areas with no shade at night and then moved them back to areas with shade late morning. It takes a bit more work, but the cattle sure appreciate it. Good soil coverage also helps cool cattle. Heavy forage cover cools the soil; the cooler the soil, the more you will see cattle laying down in the middle of the field, even on hot days. It's not a bad idea to add some shade like portable structures or longer-term trees into the system. But plan ahead as they take some extra management because they become hot spots of nutrients quickly.

In short, shade is important, and so is the availability of close, cool water. The type of cattle and the amount of hair they have also makes a difference. Grazing endophyte infected tall fescue can add fuel to the fire because it can raise body temperature on its own. Think about where the livestock will be during hot weather and plan ahead. The best shade will always be obtained on the north or east side of a tree line or woods.

Okay, it's time to be thinking about some fall planted annuals. Oats, turnips, and cereal rye still remains my favorite combination. Fall oats are higher in water-soluble sugars and have a higher level of total digestible nutrients than spring grown oats and produce a lot of quality forage in a short time frame with sufficient moisture. The cereal rye can then take off and provide good cover and forage for early spring grazing. Being able to get off pastures for a while in the late summer or early fall allows for those pastures to rest and grow more forage for use later; a perfect situation for some stockpiling.

Remember, it's not about maximizing a grazing event, but maximizing a grazing season! Keep on grazing!

**Reminders & Opportunities** More pasture information and past issues of Grazing Bites are available at <https://www.nrcs.usda.gov/wps/portal/nrcs/in/technical/landuse/pasture/>



*Heat affects people and livestock. Sometimes some shade is needed. Photo by Russ Wilson*