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GRAZE 300
Virginia Cooperative Extension

The Fenceline

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Can Grazing Pastures Tight Going into Drought Help Conserve Moisture?

As we start to enter our first real hot & dry period of the year, I'm beginning to hear people reference the need to keep pastures tall and shaded to conserve moisture. The idea is that more leaf area shading the soil will keep it cool and reduce evaporation, thereby conserving moisture for plant growth--either during drought conditions or when favorable weather resumes.

In reality, the top layer of soil dries out fairly quickly and to some degree "seals" the soil from further moisture losses. The greatest source of water loss is not due to evaporation from the soil, but actually from water lost through leaves (called transpiration). Its very simple: plants have pores in the leave called stomata, through which they take in air and release water. This water loss is unavoidable as long as stomata are open, and stomata must be open to obtain the carbon dioxide needed for photosynthesis. There is more to it than

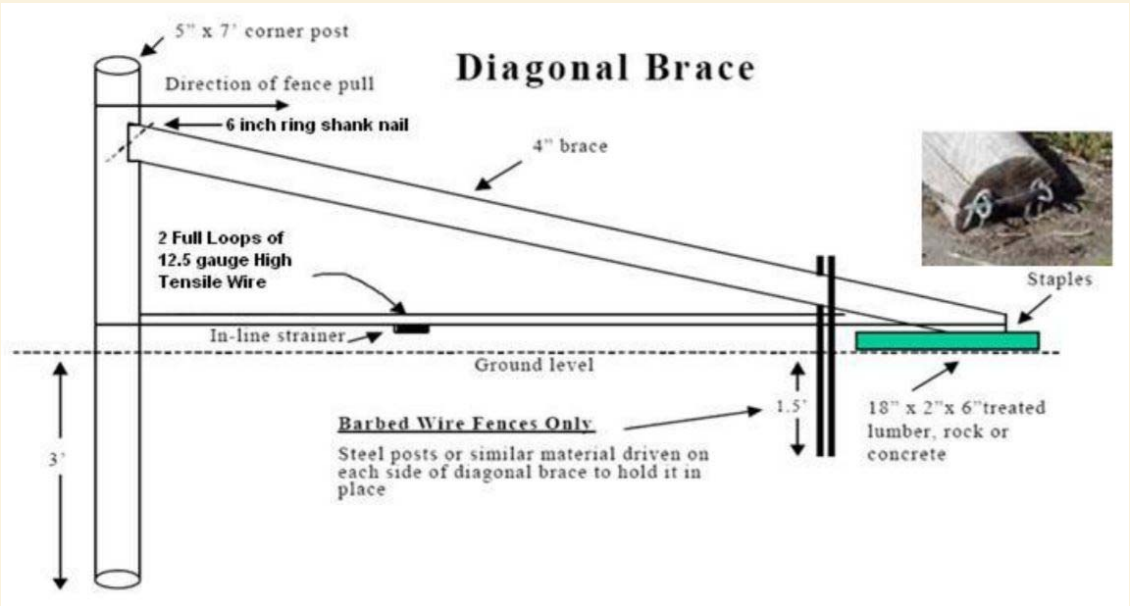
that, but essentially, the more leaf area you have, the more transpiration losses you will incur.

Whenever you are moving into what appears to be a prolonged period of hot, dry conditions, it may be a good idea to graze a little closer than what we typically recommend when moisture is not limited and plants are growing quickly. I'm not suggesting you graze pastures to the dirt, but a 2 to 4" residual (depending on the species) should help retain more moisture in the soil than the 4" plus residual that we like to think keeps the soil shaded and moist. If you graze tighter going into a drought, it is still important to observe proper recovery of the pasture. As you move out of a droughty period and growth resumes, plants should be allowed to grow to a height of 8-10" before turning livestock in. To do any of this will likely require the establishment of a summer sacrifice pasture where livestock can grazed and/or fed hay while other pastures are rested.

The Floating Fence Brace: strength & versatility

The floating brace is a fairly new concept in brace design and works well with hi-tensile, barb wire, and woven wire fences. One of its major advantages is that it only requires digging one hole, which may or may not be a big deal to you depending on your soil type. I've found it to be cheap and easy to install. There is virtually no difference in strength between a floating brace and a traditional H-brace. See images below for a floating brace design, but take note of the following key points of construction:

1. The end post should be 7 or 8' , 5-8" post. The brace post should be at least 4" round and 6-8' long.
2. Install the end post and notch it to receive the brace post. The notch should be placed at **2/3 the height of the top fence wire**.
3. Place brace post in notch and rest the end of the post on the ground
4. Place a block on the ground under the end of the post. The block can be a large flat rock or a treated 2 x 10 or similar.
5. Secure brace post by driving a #40 galvanized nail or a 3/8" steel rod into through the brace post into the end post
6. Run a single strand of 12.5 guage high-tensile wire around the base of the end post (about 4" above the ground) and across the foot of the brace post. Tighten the wire with a permanent in-line strainer until the brace and wire are tight.

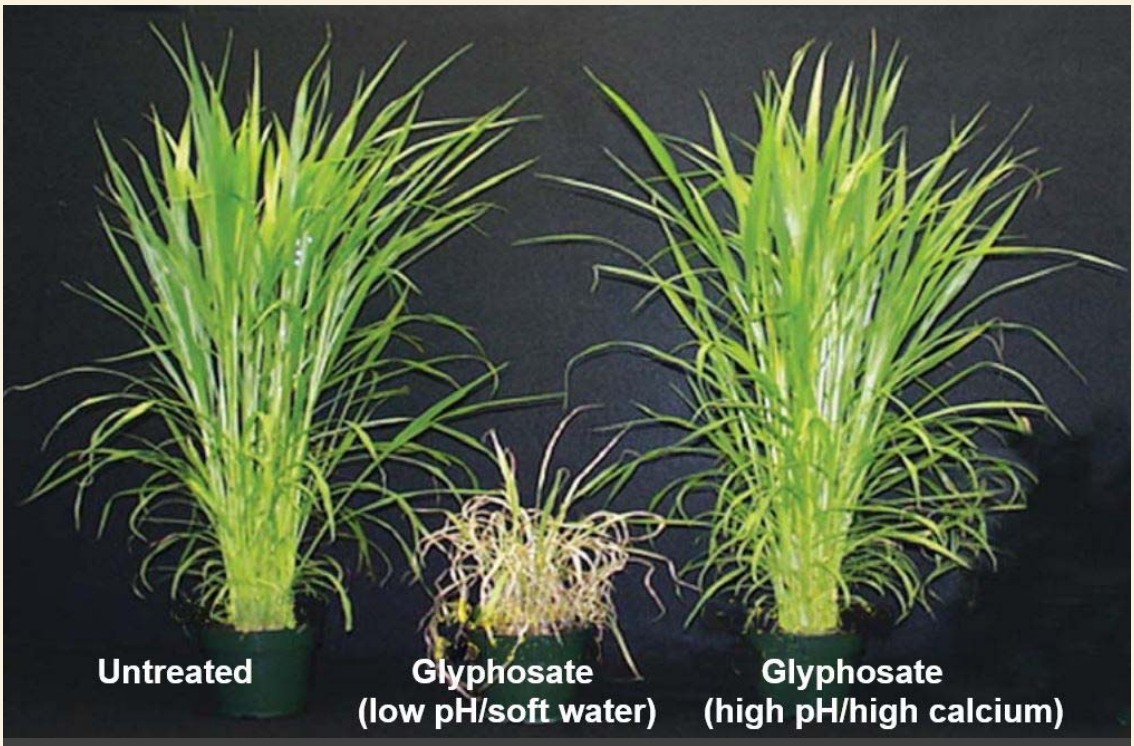

5" x 7' corner post
Diagonal Brace
Direction of fence pull
6 inch ring shank nail
4" brace
2 Full Loops of
12.5 gauge High
Tensile Wire
Staples
In-line strainer
Ground level
3'
1.5'
Barbed Wire Fences Only
Steel posts or similar material driven on each side of diagonal brace to hold it in place
18" x 2"x 6"treated lumber, rock or concrete

Are high water pH and hardness effecting your herbicide efficacy?

Common weed-related complaints from farmers include:

- "This pesticide doesn't have the residual they say it does."
- "I need to double the labelled rate of herbicide to get control."
- "These weeds are resistant."

These types of problems may have nothing to do with the herbicide, and everything to do with your water. Have you ever tested your water? High water pH and/or hardness can dissociate or bind active ingredients and make many of our commonly-used herbicides less effective. Susceptible herbicides include glyphosate, 2,4-D amine (a component of GrazonNext HL), dicamba, picloram (a component of Grazon P&D) as well as other common products.
The process of dissociation and molecular binding that weakens herbicides can happen within 1-2 hours under pH 6-7, and immediately under pH 7 or higher. A pH between 3.5 and 6 is satisfactory for most spraying and short-term (12-24 hours) storage. A recent farm water testing program in the Shenandoah Valley found 89% of farms sampled had water pH above 7. Fortunately, high pH and hardness can be fixed with ammonium sulfate or vinegar to acidify water; ammonium sulfate or an AMS alternative can also bind calcium and other cations. Feel free to reach out for more information.



An example of how high pH and/or hard water can decrease herbicide efficacy.

Questions? Feel free to contact me.

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