The Fenceline

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Murphy's Laws and Farming

Matt Booher, Virginia Cooperative Extension

I was thinking recently about Murphy's Law and how it relates to agriculture. Most of you are probably familiar with Murphy's first law: "Anything that can go wrong will go wrong." But many people are not as familiar with some of Murphy's additional laws that especially describe farming. For example:

- Whenever you set out to do something, something *else* must be done first
- There is no job so simple that it can't be done wrong
- A carelessly planned project takes 3 times longer than expected; a carefully planned project only takes twice as long
- If something simply cannot go wrong, some*one* will make it go wrong
- If you perceive that there are four possible ways in which a procedure can go wrong, and circumvent these, then a fifth way, unprepared for, will promptly develop

And lastly…

- If everything seems to be going well, you have obviously overlooked something.

You know as well as I do that while these laws are repeated in jest, they are often true! With that in mind I wanted to offer a couple timely reminders…for this fall--not because I've forgotten what month we're in, but because our best chance of overcoming Murphy's laws is to start planning months in advance.

First, I'd like to remind you that early fall can be a great time to control weeds in pasture and hay: biennials like thistles germinate in abundance in fall and can be easily killed in this stage; fall can also a good time to spray perennials like dogbane and curly dock as they send sugars to belowground storage for the winter. Give you sprayer a tune-up and buy your herbicide now so you are ready to go this fall. Make sure you have some spare nozzle tips, chemical resistant gloves, and calibration equipment in one, handy location.

Now is also the time to begin thinking about winter grazing.Many livestock producers have been very successful in reducing hay costs by stockpiling a field during fall that can be grazed in December or beyond. To do this, the field to be grazed in winter must be grazed or mowed soon, and fertilized with nitrogen in late-August. If you haven’t had a recent soil test, this is a good time to test and address and pH issues or nutrient deficiencies with lime and fertilizer or manure. Fields that are to be stockpiled should be deferred from grazing during the fall so it can accumulate growth to be used later. Extensive research and testing have shown that stockpiled pasture grazed in December is better than the best hay, and it is much cheaper than feeding hay. If you try this, also consider subdividing the stockpiled field in winter and grazing off one section at a time to capture more forage with less waste.

Now is not too early to test the hay you’ve made this summer. Especially if you’ve got cows that will be lactating later this fall, it will be important to identify any energy or protein deficiencies in your hay so you can explore the most cost effective feed supplement or byproduct to purchase for your animals. Contact your local office of Virginia Cooperative Extension office to learn more about testing hay.

If you are planting any cool-season annuals for fall grazing, make sure to get them in early. Shoot for an early to mid-September planting into a clean seedbed. Be sure to include about 25 lbs. nitrogen/acre at planting. Some good forage species and mixtures for fall grazing include:

- spring oats + cereal rye (rye can overwinter to provide spring grazing, oats will winterkill)
- oats and brassicas (for the most part both will winterkill)
- barley, cereal rye, wheat, or triticale (some fall grazing, most tonnage in spring)
- annual ryegrass alone or as a component of a mix (depending on what part of the state & the cultivar selected, may not overwinter)

REVISITED:

Can Grazing Pastures Tight Going into Drought Help Conserve Moisture?

Matt Booher, VCE

A few weeks ago I wrote an article about how grazing pastures a bit closer than usual when going into a drought might help conserve some moisture, due to decreased transpiration-related water losses seen with high amounts of leaf area. I put the article out there without too much thought, more just as food for thought. Since then I've had half-a-dozen or so emails from farmers telling me they disagree--in the forage world that is a lot of protest. I'd like to take the time to provide a bit more discussion, while chewing on the crow I see its time for me to eat.

Your reasons for disagreeing: 1) grazing close removes energy reserves at the base of the grass stem, 2) grazing close removes the plant's solar panel, 3) grazing close removes the canopy that shades and cools the soil, which is important for the plant and for soil microbes, and 4) grazing close promotes weeds. For the most part I agree: It is important to maintain stored energy reserves in the stem base (therefore, leave a 4" residual). It is important to retain adequate leaf area for photosynthesis (therefore, leave a 4" inch residual). It is important to shade and reduce daytime soil temperatures (therefore, leave a 4" residual). It is important to maintain enough cover to suppress weed seed germination (therefore, leave a 4" residual).

Based on research, we know that transpiration is higher with increased leaf area, but this shouldn't make a huge difference unless leaf canopy is excessive. Research in WV and elsewhere has shown that greater leaf canopy does keep the soil shaded and cooler during the day, but that nighttime stress may be increased as a result of insulation from atmospheric cooling. Higher nighttime temperatures accelerate a plant’s use of carbohydrates, since respiration is elevated at night. That's not something I had ever considered, but again, at what point does it make a practical difference that we can observe in the real world?

So, I'm of the opinion that while some of the research suggests maintaining greater leaf area during drought could be more detrimental due to increased transpiration and greater rates of nighttime respiration, 95% of us are not at that point when following normal grazing practices. In the complex ecological system that is pasture, the approach that is best for plants, livestock, and soil health is definitely to err on the side of leaving some grass behind. However, it is worth noting that we can leave too much leaf area. This is rare but it happens, and some of the more holistic grazing systems even push people in that direction. I think maintaining a thick leaf canopy greater than 7 inches or so in height during times of drought may overly stress plants as they use water and energy to try and sustain a larger leaf area. In addition, old or senescing leaves are inefficient at photosynthesis and can inhibit later regrowth. I think we can feel justified in grazing off those pastures down to about 4 inches both to get some use out of it and to manage the health of the stand. Using an average 4-inch height as your guide to stop grazing once again shines through as the sweet spot for multiple reasons. Thanks for calling for more discussion on this topic, and for keeping me on point.

Stickweed Control

Matt Booher, VCE

Stickweed, wingstem, and ironweed are similar species from the same family that are commonly referred to interchangeably. Their life cycle and growth form is very similar, and they are managed similarly as well. All species are large (6- 12 feet tall) perennials that sprout new plants annually from a large, underground crown. Target the plant during the early-bud stage in summer. You may spray regrowth following mowing or seasonal fall regrowth after the plant reaches about 2-3 feet in height.

In university testing, good results were obtained with numerous herbicides including: Crossbow, 2,4-D + dicamba, Surmount, and GrazonNext HL. The least expensive option will most likely be 2,4-D + dicamba but the best would be Surmount or GrazonNext HL.

Stickweed	Wingstem	Ironweed
(*Verbesina occidentalis*)	(*Verbesina alternifolia*)	(*Vernonia noveboracensis*)

All 3 species possess "wings" that run along the stems

***Best herbicide timing*:**
early bud stage (summer)

Example applications:

Per acre	Per gallon of water (spot treatment)
2.1 pints GrazonNext HL	13 mL (1/2 oz) GrazonNext HL
8 oz non-ionic surfactant	9.5 mL (1/3 oz) non-ionic surfactant

Per acre	Per gallon of water (spot treatment)
2.5 pints 2,4-D ester	16 mL (1/2 oz) 2,4-D ester
8 oz dicamba	3 mL (1/10 oz) dicamba
8 oz non-ionic surfactant	9.5 mL (1/3 oz) non-ionic surfactant

Questions? Feel free to contact me.

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