

# Grazing Bites

February 2021

Victor Shelton, NRCS State Agronomist/Grazing Specialist

It might be early February, but I'm already thinking about new spring forage growth and I guarantee the livestock are also. In the past, we've discussed the impact of fall management on the next spring growth and production, but how much impact does it really have?

There are a lot of factors that influence spring forage growth. Let's take a look at some of these factors and then perhaps come to a better understanding of what we can impact.

It's been a fairly mild winter thus far. I actually question if we have truly ever reached full dormancy with a lot of forages. Generally, full dormancy requires several nights in a row with temperatures at 25 degrees F.

During the growing season, forages use photosynthesis to change carbon dioxide, water and inorganic salts into carbohydrates. The carbohydrates are used by the plant or are stored for winter hibernation. In the fall, forages move these "sugars" down into the roots to provide energy for winter months and spring regrowth. Plants need to go into dormancy to conserve energy and therefore dormancy is a mechanism that is vital to plant survival.

I'm a bit surprised to still see what I think is new growth on some hardier species, especially tall fescue. At this time of year, this is a bit unusual. This is for sure, somewhat dependent on your location and most certainly the site aspect. Southwest facing slopes do tend to be warmer in the winter and are more likely to show weakened dormancy, and occasionally the same thing happens on some sandy soils.

It is always best in the fall to try and not graze forages until they are dormant because we don't want to pull from reserves that may not be replenished sufficiently in time for winter. That is the time of year when, if practical and possible, the livestock are best moved off pastures and set to graze annuals, crop aftermath, a combination or a field that will be deferred a lot longer next spring. Pastures that are grazed up to the point of dormancy are compromised some and this is usually noticed the next spring in forage growth and production.

Grazing pre-dormancy is like borrowing from a bank account. The dividends are reduced until it has recovered. Interest in this regard is found in the slow redevelopment of roots and energy stores only remedied by spring warm days, sunlight and rest.

The same thing can happen mid-winter to some degree. If the plants do not go completely dormant or sneak out of dormancy from time to time over the winter it is temporary, but is primarily from stored energy, not photosynthesis. That reminds me of some people who like to adorn shorts on a warm winter day, it is usually very temporary and then the shorts go back into hibernation. Removal of this newfound growth may not be as detrimental as grazing pre dormancy, but it can still slow regrowth upon the arrival of true spring.

There can be advantages to slowing spring growth and that is usually to reduce competition of established forages, especially perennial grasses, when trying to get some new legumes established in the pasture. Oh, and by the way, it's a good time to be doing that if needed.



*Grazing intensity and timing influences root growth which then influences regrowth and production. Photo by Sid Brantly.*

Where was I? Ah, fall management influences on spring growth. Pastures that are continuously grazed throughout the winter, and especially those that were grazed continuously from the end of the last fall growth, have compromised energy reserves. If kept grazed close with no deferment or rest, they will also have reduced root mass. This automatically reduces energy storage space and later resilience to droughty conditions. Short roots have little reserve.

I like to experiment and test theories, even if anecdotal. I plan on placing some forage cages out again prior to any spring growth. This time looking at different residual post grazing forage heights of the same forages on the same soil type and, assumingly, fertility. The differences in forage residual in this case has more to do with what I would call zone grazing. Zone grazing occurs when one end of the pasture is grazed heavier than the other. It is common with pastures with longer walking distances to shade, mineral or water, or a combination. The pasture or rather forage closest to the desired facility is almost always shorter than the part that is the farthest away.

In this case, it grants an opportunity to evaluate the impact of overwintering residual height on spring growth and yield. I will dig, observe and note root presence on each site and any other noteworthy features and also clip and measure the mass of the residual. I don't expect too much difference in root mass or depth between these and may seek to try and find a severely stressed point for comparison.

Next spring, differences in rate of regrowth and then yield can be evaluated. If I get really ambitious, I'll pull a soil sample from each also. Fertility, even though you would think would be similar, may not be, which is often noted in that same zone grazing scenario. Areas closest to the watering facility, mineral or the only shade in a pasture, generally have more manure deposited there especially if the livestock I tend to ruminate there. Areas visited less or utilized slightly less with little or no lounging can actually have nutrients transported to the favored rumination location.

Fertility certainly has a huge impact on forage growth and yield. I'm running short on time and space, so I'll only dust the high spots. Look at the soil pH first. Soil tests should be used to monitor the soil pH, and as long as it remains above 6.5, there will probably be little benefit from liming. If the soil pH does drop significantly below 6.5, there will usually be some benefit from liming and its impact on nutrient availability.

Phosphorus, potassium and magnesium are then the usual macro nutrients to assess. It's best to try and maintain these at optimal levels. These certainly fluctuate more where forages are also mechanically harvested. If the field is only grazed and grazing is managed well, then nutrient removal is not as remarkable. Most don't think about magnesium levels, but I like to look at those against calcium. The calcium to magnesium ratio should be around 4:1 for beef animals and probably 5:1 for dairy.

With cleaner air from coal-powered power plants, sulfur is starting to show more as being a bit deficient. If legume content is good or nitrogen from applications is sufficient and yet you are still seeing some yellow tips, lack of enough sulfur could be the issue. This can be fairly easily remedied by using a nitrogen or potassium fertilizer that includes sulfur.

In closing, management does impact spring regrowth and can influence fertility. Maximize forage production, be as efficient as possible in grazing and maintaining it, and it will have a positive impact on your bottom line. Remember, it's not about maximizing a grazing event, but maximizing a grazing season! Keep on grazing!

### **Reminders & Opportunities**

**Purdue Weed Control Virtual Field Day** – **February 1<sup>st</sup>**, 7 p.m. Register at [www.purdueag.tv](http://www.purdueag.tv)

**Southern Indiana Grazing Conference** – Canceled for 2021. March 8-9, 2022 next planned conference.

**Northern Indiana Grazing Conference** – Canceled for 2021.

**Heart of America Grazing Conference** – Postponed until August 2021. Details to be announced later.

More pasture information and past issues of Grazing Bites are available at

<https://www.nrcs.usda.gov/wps/portal/nrcs/in/technical/landuse/pasture/>