

Grazing Bites

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This winter just doesn't seem to want to end; it will be one of those winters that will probably be talked about or compared to for several decades...I hope. Someday younger people will say, "Do you remember the winter of fourteen," instead of 1978. This too will pass.

It has been a tough winter. I hope that pastures had been left with some forage residual and adequate fertility, and therefore ready for spring! What is the first thing a person should consider when we mention fertility... a soil test of course! A soil test is always a good place to start! Soil fertility on both pasture and hay fields is very important if we want good nutritious forage production. Without adequate fertility, we should expect lower yields and lower quality livestock feed which also will usually mean increased inputs elsewhere.

I see people all the time that have tried just "getting by". With lower levels of nutrients, especially phosphorus and potassium, you are doing just that, which results in lower yields, lower quality forages, and lower carrying capacities. Just like an annual field crop, your forage crop needs to be fertilized and managed.

Soil fertility samples should be taken that match up similar soils and management. If a field is used for hay, then it should be tested separately from a field that is only grazed. Fields are rarely all the same soil and also may not have the same use history. These are clues to doing a better job on collecting those samples. Different soil colors, textures, land use, and even slope and slope direction can influence soil fertility. Sample accordingly!

You really need to make sure you collect a representative sample. Depending on the size of the field, you want at least ten to twenty cores per composite sample. The fewer the samples collected for the composite, the less accurate it is; the more samples collected, the more accurate it is. Samples should be taken at the depth of about four inches. Deeper sampling on pasture could be skewed a bit, especially pH, and lead to possible over application. Avoid sampling in heavily used areas and areas close to rocky roads. Mix those individual cores in a plastic bucket, breaking up individual cores and ideally let air dry before putting in the sampling bags and sending off.

An alternative to a normal sample could be grid sampling. Grid sampling takes samples at designated and geo-referenced (defined physical space via geographic information systems) equally spaced intervals all across the field in one or two acre areas. Grid sampling usually gives you a more detailed picture of what is going on and future samples taken the same way provides you with data to compare. This type of sampling does come with some additional expense. I like to watch and see changes over time, especially with the cation exchange capacity (CEC) and soil organic matter (SOM). The CEC is an assessment of the nutrient holding ability of the soil and the SOM is an important indicator of water holding capacity.

Fields that are only pasture should be checked every three to four years. Fields that are used for hay production or are intermittently cropped should be tested every year. A lot more nutrients leave the field with hay than when it is only pasture. According to Jim Gerrish, **each ton** of hay removes 40-60 pounds of nitrogen, 6 pounds of phosphorus (13 lbs. P₂O₅) and 40-55 pounds of potassium; 500 pounds of beef per acre removes only 16 pounds of nitrogen, 5 pounds of phosphorus (10 lbs. P₂O₅), and about one pound of potassium. About 90 percent of all minerals an animal consumes will return to the site. Good management puts it back more uniformly.

After you get the results from the tests, you can then get a better handle on where the fields are lacking and amend as needed. Macro nutrients such as calcium, magnesium, nitrogen, phosphorus, potassium, sodium and sulfur, are generally needed in larger amounts and are somewhat dependent on where you are located and materials used over time. Calcium certainly plays an important part with soil pH and thus availability of most other nutrients, which is why I usually say, “lime first” if needed. There are advocates that say that you can’t put on too much lime. There is some truth to that. Fertilizer can be commercial or from animal manure. When using animal wastes, you need to get a good sample of the material and have it tested to see what nutrient levels it has and then apply it according to a soil test just like commercial fertilizer.

Nitrogen is probably one of the key nutrients for maximizing yield potential of a soil, but with tongue in cheek I’d have to say, the other nutrients still have to be there in order to maximize production, have healthy forage and thus healthy livestock grazing on it. If the pasture is a monoculture of grass, then certainly the sward is going to need a nitrogen source to reach its yield potential, but if it is a grass-legume mix, then you need to think slightly differently. If the legume component is at least 30 or 40 percent of the sward by dry weight or appearing to be close to 40 or 50 percent visually, then you may not really need much, if any, supplemental nitrogen. Now, saying that, if for some reason you have too much legume, which is normally clover if a problem, then applying a little nitrogen early in the spring at first green up will be advantageous for the grass and set the clover back. If you are shy or have about the right amount legume content, then adding early nitrogen is probably not a good idea. The nitrogen will create early grass growth that will then compete too much with the legumes you are trying to promote.

Legumes will pay a lot more dividends than applied nitrogen. So, manage to maintain your legume component, clover, lespedeza, trefoil or alfalfa. Keep fertility and pH at optimal levels to maintain the legumes and introduce more as needed. The pH of the soil is also a very important factor. Most clovers need at least a pH of 6.0 or better, 6.6 for alfalfa. If the pH is too low and you are trying to establish new clover, apply lime first, ideally several months in advance, to get a good stand. The pH is also important in increasing the CEC and for good soil microbial health. Everything plays a part in maintaining a healthy soil, healthy forage, healthy animal, happy consumer, and a profitable producer.

Lastly, are there residual forages, or adequate amount of stem and leaf left behind after the last grazing of the previous year’s growth? Yes, there should be something left! Swards with more residual will have more start up energy in the spring. That dry residue matches up with the new growth perfectly to help provide some dry matter with all that rich new watery green growth making it easier to be utilized more efficiently by the cows or whatever is grazing it. Fields with the most residual might be the best to graze first and ideally, that is not the same field each year.

Spring will come; we just need to be patient and ready. Keep on grazing!

Reminders & Opportunities

Livestock Forage and Grain Forum – March 13, 2014 – Marriott Hotel in downtown Indianapolis, IN. For more information go to:

<http://www.indianasoybean.com/events-and-promotions/livestock-forage-and-grain-forum>



Southern Indiana Purdue Agriculture Center (SIPAC) Auction – March 8, 2014 – The Purdue farm in Dubois County is going to **year-around grazing** according to farm manager, Jason Tower. They are selling all of their hay equipment. Information about the auction can be found at

<http://www.robinsonauctionservice.com/Upcoming-Auctions.html>

As of September 7, 2013, the Grazing Lands Conservation Initiative (GLCI) is now the National Grazing Lands Coalition (GLC).