Grazing Bites

March 2013

Victor Shelton, NRCS State Agronomist/Grazing Specialist

It is approaching the time of year that I really start getting ancy for any signs of spring. I start looking and watching for any new green growth emerging slowly from the browner leftovers of last year. I still find spring so amaizing to watch as the quiet, blander looking winter gives way to a new season of color…which includes a lot of green. Speaking of green…what shade of green is your pasture going to be this spring?

There are several factors that will affect the nitrogen content and somewhat correspondingly the crude protein content of the new spring sward which include the amount of existing legumes, the amount of stored organic nitrogen in the soil, and certainly any nitrogen that has been added from commercial fertilizer or additional animal manure.

Legumes fix nitrogen with the help of *Rhizobia* bacteria species. As soon as the legume roots start growing in the spring and the root hairs start to multiply, the *Rhizobia* start to colonize and the legume nodules start to form. Inside the nodules, the bacteria continue to multiply and convert the N2 from the soil air spaces to ammonium. Ladino type white clovers can add up to 200 pounds of nitrogen to a well managed healthy pasture. Each *Rhizobium* is species specific, thus the reason it takes specific inoculants when planting legumes.

As the soil starts warming up, soil microbes start to really get active. Soil microbes make nitrogen available to plants by breaking down organic matter and steadily releasing two inorganic forms of nitrogen—ammonium and nitrate. Another great reason to try and maintain that cover and **never** see any bare soil. Soil temperature highly influences the activity of these precious microbes…too warm, usually caused from lack of adequate cover, numbers and benefits decrease.

Commercial fertilizer is always an option. Nutrients need to be kept in balance. Too high a level of potassium may result in grass tetany and milk fever problems. Too much nitrogen and you may get more growth than you can use at one time. Excessive nitrogen applied in the spring can put the hammer on the cool season legumes in mixes.

Most people will fertilize with nitrogen or a combination with nitrogen in the early spring. Not a problem if we want to cut it for hay, but for a pasture with cool season grasses such as orchard grass and fescue we are just adding fuel to the fire. **These cool season forages will normally produce two thirds of their total dry matter by mid June.** Fertilizing early promotes early growth that may be difficult to manage in a grazing system. We can take some of this excess growth off as hay, but we might be better off waiting until mid June and putting the first application of nitrogen on to help promote improved summer growth and then a second application in mid August to early September to promote the next growth spurt in the fall. This second application is perfect timing for fertilizing forages we aim to grow and stockpile for fall, winter or early spring use. Another possibility is to do multiple applications. This works well in a rotational grazing system where you apply a small portion of fertilizer to the paddock after each or every other grazing.

If you are not removing dry matter as hay, nutrient levels are adequate, cover is maintained, good "stop grazing" heights are kept, and good legume content is present, quite often little or no additional fertility is needed. Diversity in pasture is always a good thing with a good mixture of grasses, legumes and even some forbs with each adding their own contributions to the system and the cow's palate.

Been asked the question, will my pastures come back after the drought? First of all, I think a lot of the pastures and hay fields actually look a lot worse than they really are. Most of the tall cool-season forages like orchardgrass and tall fescue went dormant fairly early in that drought period and if not totally overgrazed, a good percentage should come back, especially the fescue. Forages that are not near as drought tolerant such as bluegrass or perennial ryegrass were hit the hardest and may have died out. Droughty soils such as sand and strip-mined ground will also show more damage due to poor water holding capacity.

First do a very good evaluation of the field. The plants might be brown on top, but hopefully the storage unit below is ready to rebound soon with warm spring conditions. Pull back those dead leaves, hopefully you have some left, and look at the plant base. You should be able to find some little growing points at the base and attached to some live roots. Now…make sure you are looking at one of your desired forages and not a weed. On a square foot basis, do you have good soil coverage? Is it with live (dormant) plants and desirable species? Are at least two of those plants a legume such as red or white clover? This is the first evaluation we need to do. This will provide us with an idea of what kind of growth we should expect even if we do nothing. Thin stands will of course indicate poorer yields. Dig down into the roots if possible and look at the roots. Are they alive and healthy? The more live root mass, the better the early growth will be and a good indicator that the plant went dormant before being eaten too close or that you did a good job in maintaining some residual.

If there is very much bare soil or you lack sufficient quality live forage plants, then we need to consider either adding to the present stand or starting over. Reseeding may be needed to increase desired forage species, increase nutritional value, and reduce weeds to provide a denser stand.

If you think it might thicken up some with time, then you can enhance the stand some temporarily by broadcast seeding some Italian ryegrass on the stand at about 40 pounds or ideally drill it into the stand at about 20-25 pounds per acre. This will help provide quality forage in thin areas for the present season but will most likely be overtaken by taller cool-season forages within a year or so depending on the density of the existing stand and grazing management.

Most grass seed is coarse and rough enough that it has a very hard time making its way down to get good seed soil contact required for germination and therefore needs some kind of manipulation to help it get there…that is usually the case for a drill. Frost seeding or broadcast seeding large grass like tall fescue and orchardgrass is generally a waste of time, money and seed.

It is advisable to use a non-selective herbicide to either kill the entire existing stand or at least set it back quite a bit in order to allow the new seedlings a fighting chance to survive. Small seedlings have a hard time competing with established forages, thin or not.

If you truly want to change or improve the forages of the pasture, then starting over and killing out the existing stand is probably the best thing to do. On the conservative side, if the stand is really only a little thin and you are satisfied with the existing forages and your livestock likewise, then I would probably rely a little more on the existing seed bank and do any needed creative grazing required to return the

stand to its prior level of performance and condition. Allowing longer rests between grazing periods and allowing more desirable forages to mature and graze in a more mature condition will help revive the stand.

I end today with first an apology for being late with this March issue and some words to live by, "…there is nothing better for people than to be happy in their work. That is why we are here… It is good for people to eat, drink, and enjoy their work under the sun during the short life God has granted them, serve other people, and to accept their lot in life." Enjoy life, life is short.

In loving memory of my Mother, Lois G. Shelton (1929-2013); keep on grazing!

Mark your Calendar!

Soil Health Workshops – Multiple dates. The Conservation Cropping Systems Initiative and the Indiana Conservation Partnership are sponsoring a series of soil health workshops across Indiana. There will be Introductory and Advance Level courses and farmer specific workshops. Contact IASWCD at info@iaswcd.org for registration and location details or go to http://iaswcd.org/CCSI/ccsi-calendar.html for dates and more information. Yes, they are applicable for pasture too!

Grazing 102 – June 7th and 8th, 2013 at the Southern Indiana Purdue Ag Center, Dubois, Indiana. Contact Jason Tower at towerj@purdue.edu, 812-678-4427 for more information or questions and refer to the attached brochure.