



FORAGE BITS

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President's Column

Many organizations are struggling with maintaining membership numbers let alone increasing membership, and among those are the Maryland-Delaware Forage Council. Over the years our membership has declined from well over 100 in the early years of the organization to about 25 at the current time. The question was asked at our June quarterly board of directors meeting, "Can we be sustainable with a membership base of 25 people?" The consensus answer around the table was "no, we cannot." Beyond the 12-member board of directors we have 13 other members.

About 250 other people who attended the Delmarva, Southern Maryland or Tri-State Hay and Pasture Conferences in January and the 120+ people who attended the Maryland Cattle Industry Convention & Hay and Pasture Conference in March took advantage of the efforts of the 25 supportive members of MDFC, but don't see fit to be supportive of keeping the organization functioning. If MDFC ceases to exist, the conferences may well cease to exist as well since MFDC serves as the coordinator for organizing and conducting them, in cooperation with Extension and NRCS. But MDFC has the lead role and if it is dissolved, the conferences are not likely to continue, at least in their present form.

If we are to be sustainable and continue to exist, we need more members to help with the functioning of the organization. We also need members willing to serve on the board of directors. The nomination committee is currently searching for someone to serve as president (while it may not be specifically prohibited by the bylaws, the president should be from Maryland or Delaware, not Pennsylvania as I now am).

We all need to recruit new members – without new members MDFC will surely die. Share with your neighbors and friends who are forage and

livestock producers or equine owners the purpose of MDFC. Just as a reminder if you haven't read them in a while, here are the objectives of the Council:

1. To promote the profitable production, marketing and utilization of forage (including hay, silage, pasture, cover and conservation crops, crop residues, etc.) as a prime feed resource for efficient production of livestock.
2. To provide a forum for farmers, agribusiness representatives and public agency personnel having mutual interests in forage, production, evaluation, marketing and utilization to consider and make recommendations on general issues that affect the forage industry.
3. To encourage industries and organizations serving agriculture to provide the best available products and information for optimum production, evaluation, marketing and utilization of forage.
4. To identify the needs and encourage expanded and intensified research and education-relative to production, evaluation, marketing and utilization of forage.
5. To promote the use of forage legumes in crop rotations as a source of nitrogen for succeeding crops.
6. To promote the value of forage crops, grazing lands and other grasslands as soil and water conserving crops and for the abatement of pollution for the short and long term benefits to agriculture and the environmental quality of Maryland and Delaware.
7. To provide leadership in forage and grassland activities in Maryland and Delaware

To cooperate with other organizations promoting modern technologies of forages and grassland agriculture and encourage joint

programs when desirable for most effective results.

If you need membership brochures photocopy the form attached to this newsletter or contact me and I'll send you some (contact info below). Inform prospective new members that with membership in MDFC they also get membership in the American Forage and Grassland Council (AFGC). Half of the \$25 annual membership dues is forwarded to AFGC. Members receive quarterly issues of MDFC's newsletter, *Forage Bits*, as well as quarterly issues of AFGC's newsletter, *The Forage Leader*, and have access to proceedings from the AFGC National Conferences. More information about AFGC can be found at www.afgc.org.

Next year's AFGC National Conference will be held January 22-25, 2017, in Roanoke, VA at the Hotel Roanoke and Conference Center. It's unusual for the national conference to be this close to us so consider taking advantage of the opportunity to hear speakers from across the country. More information on the conference is available at www.afgc.org.

A highlight of each national conference is the Forage Spokesperson Contest. This is one of the most popular and informative sessions at the conference. Individual farmers are nominated by state affiliate councils to present at the national conference. Each producer is asked to develop a 15-minute presentation which gives an overview of their farming operation. **Emphasis is typically placed upon how forage management contributes to the overall farm objectives and marketing.** An additional five minutes are then reserved for questions from judges and the audience. A diverse panel of judges comprised of producers, industry representatives and government agency employees score the producers on criteria including innovativeness, practical application of sound principles, communication skill and

enthusiasm. We request that no video be used in the presentation as this impedes our ability to record the presentation.

MDFC is looking for a farmer member who we could nominate to participate in this contest. If you are interested in participating or know of someone else who might be interested, contact me or any of the board members. Additional information on the contest is on the AFGC Web page at http://www.afgc.org/forage_spokesperson_competition.php.

Until next time let's all reach out to neighbors and friends and encourage them to become members of MDFC.

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It's Almost Time: 2017 Hay and Pasture Conference Series

January 10, 2017: Delmarva
January 11, 2017: Southern Maryland
January 12, 2017: Western Maryland

The Maryland Delaware Forage Council has been busy making preparations for the upcoming 2017 conferences. This year will feature:

Dr. Ray Smith, Extension Forage Specialist, University of Kentucky will lead a session on forage selection and adaptability.

David Wert, President and Reporter, Market News will demonstrate NIR forage analysis.

Robert Shoemaker, President Elect, American Forage and Grassland Council will provide an update on the organizations current activities.

Dr. Les Vough, will lead a session understanding forage analysis and making sense of the numbers.

Presentations on local issues will round out the program.

Registration information will be available in December.



Late Summer Seeding of Perennial Forages Ohio State CORN Newsletter

Author(s): [Rory Lewandowski](#), [Mark Sulc](#)

Although it may be a dim memory at this point, we started the 2016 growing season on the wet side. Some planned spring forage seedings did not happen due to wet conditions and a compressed spring planting season. Add to this the fact that some alfalfa stands are not holding up as planned because of harvest injury during the wet and rainy conditions of 2015 and now the dry summer conditions of 2016 and there are potentially a lot of acres of alfalfa or another perennial forage that need to be planted as we look ahead to 2017. August gives us another window of opportunity to establish a perennial forage stand and it fits nicely into rotations after wheat grain harvest.

Typically the main risk with an August planting is a question of sufficient moisture for seed germination and plant growth and it looks like this year will not be an exception, as the weather outlook for August is for rainfall to be below normal. Most of our perennial forage grasses and legumes are shallow seeded crops and should be planted no deeper than ½ inch and ideally closer to ¼ inch. If the seed bed is too dry germination and emergence will be poor. This year's weather pattern needs to be considered and planting may depend upon a favorable forecast for rain. It is best to plant right into moist soil or right before a large rain system

is forecast. No-till planting is very helpful for preserving valuable moisture this time of year.

There are some advantages to late summer forage planting as compared to a spring planting. One big plus is that planting time and field preparation is not competing with corn and soybean field work. No-till planting following a small grain crop often works well. Late summer planting means forage seedlings are not competing with the flush of annual spring and summer weed emergence/growth. The soil borne root rot and damping off disease organisms that thrive in cool, wet soils are not an issue. However, late summer forage planting has some other risks that must be managed.

Ideally, planting should be completed by mid-August in Northern Ohio and by the end of August in Southern Ohio. These timelines are based on average frost dates and the time needed for forage plants to develop a root system capable of overwintering. For example, at about 8 to 10 weeks after emergence alfalfa plants pull the growing point below the soil surface, a process is called 'contractile growth'. Once contractile growth occurs the alfalfa plant is considered a true perennial. The alfalfa plant needs to reach this growth stage to overwinter. Clover plants also need to have a crown formed, and grasses should be at least in the tillering stage of development before the onset of winter.

If the fall is warm and extended, similar to what we have experienced the past few years, it might be possible for successful establishment with later planting dates. Some alfalfa growers believe that the late summer planting deadline dates can be moved back by several weeks due to climate change. But who can predict the weather? How lucky do you feel? Late summer and early fall planting dates of forages were tested in Pennsylvania in the mid-1990's at two locations that historically are a little milder than most of Ohio's winters. The year after seeding legumes, forage yield declined as planting dates were delayed after early August. For each day

planting was delayed after August 1, total forage dry matter yields the next year were reduced by an average of 158, 105, and 76 lbs./acre for alfalfa, red clover, and birdsfoot trefoil. Grasses were usually less affected by later planting dates. For example, orchardgrass yields only decreased significantly when planting was delayed past late-August and perennial ryegrass yields were actually greater in late-August than in early August. However, for each day planting was delayed after August 30, yields declined 100 lb./acre for orchardgrass and 153 lb./acre for perennial ryegrass. Reed canarygrass, a slow establisher, was more sensitive to planting dates. Reed canarygrass yields the year after seeding declined 120 lbs./acre for each day planting was delayed after August 1. So the best policy is usually to plant most perennial forages as soon in August as possible, when soils conditions allow and when soil moisture is present.

Sclerotinia crown and stem rot is a concern with no-till seedings of alfalfa in late summer and especially where clover has been present in the past. This is a pathogen that causes white mold on alfalfa seedlings. They become infected during cooler rainy spells in late October and November, the disease develops during the winter, and seedlings literally "melt away" in winter and early spring. It can be devastating where the pathogen is present. No-till is especially risky where clover has been present because the sclerotia germinate from a shallow depth. Early August plantings dramatically improve the alfalfa's ability to resist the infection. Late August seedings are very susceptible, with mid-August plantings being intermediate.

In a no-till situation, minimize competition from existing weeds by applying a burndown application of glyphosate before planting. Post-emergence herbicide options exist for alfalfa. After the alfalfa is up and growing, late summer and fall emerging winter annual broadleaf weeds must be controlled. A mid- to late fall application of Butyrac, Pursuit or Raptor and

Buctril are the primary herbicide options. Fall application is much more effective than a spring application for control of these weeds especially if wild radish/wild turnip are in the weed mix. Pursuit and Raptor can control winter annual grasses in the fall but should not be used with a mixed alfalfa/grass planting. Consult the 2016 Ohio and Indiana Weed Control Guide and always read the specific product label for guidelines on timing and rates before applying any product.

If tillage is used to prepare the soil for planting, a firm seedbed is needed to ensure good seed-to-soil contact. Follow the "footprint guide" that soil should be firm enough for a footprint to sink no deeper than one-half inch. A pre-plant herbicide is not needed for a tilled seed bed. Generally, the risk associated with establishing a tilled seed bed for a late summer planting is the loss of moisture. Finally, keep in mind that any time forages are planted the following factors must be managed:

- Soil fertility and pH: The recommended soil pH for alfalfa is 6.8. Forage grasses and clovers should have a pH of 6.0 or above. The minimum or critical soil phosphorus level for forage legumes is 25 ppm and the critical soil potassium level is somewhere between 100 and 125 ppm for many of our soils.
- Seed selection: Be sure to use high quality seed of adapted, tested varieties and use fresh inoculum of the proper Rhizobium bacteria. "Common" seed (variety not stated) is usually lower yielding and not as persistent, and from our trials the savings in seed cost is lost within the first year or two by lower forage yields.
- Planter calibration: If coated seed is used, be aware that coatings can account for up to one-third of the weight of the seed. This can affect the number of seeds planted if the planter is set to plant seed

on a weight basis. Seed coatings can also dramatically alter how the seed flows through the drill, so be sure to calibrate the drill or planter with the seed being planted.

- Seed placement: The recommended seeding depth for forages is one-quarter to one-half inch deep. It is better to err on the side of planting shallow rather than too deep.
- Do not harvest a new perennial forage stand this fall. The ONLY exception to this rule is perennial and Italian ryegrass plantings, which should be mowed or harvested to a two and a half to three-inch stubble in late November to improve winter survival. All other species, especially legumes, should not be cut



Is That Pesky White Clover Becoming Too Much for You?

Dr. Richard W. Taylor
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Usually we think of white clover as a beneficial legume that can not only add protein to a grazing animal's diet but can supply much needed nitrogen (N) to the soil that it shares with the companion grass in a pasture situation. However for the equine pasture manager, white clover often seems to take over the pasture and even out-competes pasture grasses. Where this is especially true is where horses overgraze the grass in a paddock allowing white clover to establish since it is very adapted to close grazing conditions. The University of Maryland and the Horse Outreach Work Group (HOW) suggests limiting the amount of clover or legume to no more than 20 percent of a pasture. How can this be accomplished?

In general, legumes have tap root systems rather than fibrous root systems as is found in forage grasses. A fibrous rooted crop is much more efficient at obtaining soil N whether from organic matter mineralization or commercial fertilizer than is a tap rooted crop. White clover is also a relatively low growing crop since it spreads by stolons (rooted stems that hug the soil surface) and the only vertically growing parts are the flowers on peduncles and leaves on petioles. If not over-grazed and if soil N is available, grasses are able to grow above white clover and compete more effectively for sunlight. One of the ways we have to gradually reduce the density of white clover in a pasture is to manage the available N supply and try to reduce over-grazing.

To begin the conversion process, remove the animals when there is still 4 to 6 inches of regrowth in the pasture and immediately apply 30 to 50 lbs of N fertilizer. The fertilizer will be taken up more rapidly by the grass component of the pasture and because adequate leaf area remains, the grass will grow rapidly and shade the white clover plants. Allow the pasture to recover to 10 to 12 inches before grazing again and repeat the process if adequate soil moisture is available for growth.

Another option is by using a herbicide to control the clover. A broadleaf herbicide like 2,4-D, which is sold under a wide variety of trade names such as Pasture Pro, can be useful in reducing the amount of white clover in a pasture and is labelled with no requirement that animals must be kept off the pasture for a specific period of time. There are environmental factors which must be observed such as not applying it when the temperatures are in the 80's or greater, when winds are gusty, and when the humidity is high. Although it might be more expensive, I suggest that it is best to hire a professional applicator to apply weed control products to protect yourself, your horses, and your neighbors since some herbicides are very volatile and can get into the

air and move causing damage to neighboring sensitive plants.

After reducing white clover populations to the level you feel comfortable with, you should take precautions to manage the pasture so overgrazing does not occur in the future. By managing in favor of the grass component, the pasture manager should be able to control the amount of white clover in the pasture.



Nitrogen Deficiency on Forage Grasses

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In a survey this past year, readers expressed their desire to have more articles about nutrient

deficiencies included in the Weekly Crop Update. Over the next few issues, we will present information about nutrient deficiencies and provide readers with photos to use as visual aids when trying to diagnose nutrient-related field problems. Most of us find that identifying nitrogen (N) deficiency on field corn is relatively easy to do, but how many growers could identify the same deficiency on the typical forage grasses used in Delaware. Unlike corn that shows a distinctive inverted V area of yellowing (chlorosis) from leaf blade tip back towards the leaf collar on the oldest leaves, the forage grasses (tall fescue, timothy, orchardgrass, and reed canarygrass) can exhibit the inverted V, a regular V, or even a diffused area of chlorosis when the deficiency becomes severe. A more typical symptom of N deficiency of forage grasses is a lack of tillering, rhizome or stolon development, and slow growth. In most cases, lower yield at a cutting is the primary symptom of N deficiency that is observed by the producer. Since lower yields can be the result of numerous factors, such as moisture, disease or weed pressure, N deficiency might not even be considered.

The following photos illustrate the range in N-related chlorosis symptoms that can be seen on the oldest (lowest) leaves and how the lack of N affects root, shoot, leaf, and tiller production. The take home message, as shown in the photos, is that yield reduction due to N deficiency very likely occurs long before a grower or consultant will see distinct and visible leaf yellowing symptoms. A regular N management program is essential to maintain yield of the forage grasses whether grown for hay or pasture. Tissue sampling and testing, done in conjunction with a routine soil testing program, can help producers achieve maximum forage yields.

Grass Species	<u>Tillering</u>	<u>Root Growth</u>	<u>Leaves/ Top growth</u>
<u>Orchardgrass</u>			
	<p>Many fewer tillers are produced on a N deficient plant (plant on the right) than for a plant with all nutrients available. In the photo to the right, phosphorus deficiency shows a similar reduction in tiller number but a potash deficient plant's ability to produce tillers seems unaffected or at least not much reduced.</p>	 <p>The root system in a N deficient orchardgrass plant, is smaller than that of the plant growing in sand and watered with a complete nutrient solution.</p>	 <p>Leaf chlorosis for N deficient orchardgrass is very irregular rather than the traditional inverted V shaped yellowing seen in corn or even tall fescue.</p>
Grass Species	<u>Tillering</u>	<u>Root Growth</u>	<u>Leaves/ Top growth</u>
<u>Timothy</u>			
	<p>The N deficient timothy plant is on the right and failed to tiller over the 5 month growing period. The plant grown with N did produce four additional tillers in addition to the main shoot that flowered, was clipped and then died.</p>	<p>The above photo shows timothy with all required nutrients (on the left) and then deficient in N, P, and K. The root mass is greatest for the complete and the minus potash treatments with fewer roots produced where N or P are deficient. Roots for the plant with all required nutrients tended to be larger or coarser than those where one of the major elements was deficient.</p>	 <p>In the top photo, it appears that timothy produces the typical inverted V chlorotic area when N is deficient but as seen in the second photo, the symptoms are variable. On one leaf, just the tip of the leaf blade shows the yellowing and in another the yellowing is more diffuse and less in a distinct V shape.</p>

Grass Species	<u>Tillering/Rhizome Development</u>	Root Growth	Leaves/ Top growth
<p data-bbox="147 636 285 693">Reed Canarygrass</p>			
	 <p data-bbox="310 747 683 1075">The top photo shows N deficient reed canarygrass on the right and the bottom photo shows reed canarygrass grown with all essential nutrients on the left and then deficient in N, P, and K going left to right. There's a significant increase in the number of tillers in the plant with all nutrients. In the photo for root growth, it can be observed that rhizome development was severely inhibited by the lack of nitrogen.</p>	<p data-bbox="711 716 1065 856">As with the other forage grasses, the root system for reed canarygrass grown with all essential elements is larger and roots are coarser than the plant deficient in nitrogen.</p>	<p data-bbox="1092 636 1466 940">The entire reed canarygrass leaf was less green than where N was supplied to the plant and the chlorotic area was more diffuse and didn't show the typical inverted V shape seen in corn. Top growth for all species was severely limited when N was absent but until leaf N deficiency symptoms develop, the reduction in top growth might be attributed to a number of factors.</p>



New Pasture or Hay Seedings—Wait for Rain or Seed Now

Author: Dr. Richard W. Taylor
(Originally published in Fall 2015, but relevant this fall as well)

At this time of year when we're all anxious to get new seedings planted, the most important question on our minds is often do I wait for rain or plant and hope it rains soon. I recently was asked that very question and decided to answer it based not only on agronomic principles but also on economic principles as well.

With forage seed costs at very high levels and companies pushing higher seeding rates in anticipation of better stands and less weed competition, our cost per acre just for seed has become as much as and often more than the entire seedbed preparation, fertilization, and planting process used to cost. With that kind of expense involved just for the seed itself, I have to suggest that growers should wait until enough rainfall is received to not only wet the top few inches of soil but also the deeper soil layers. I've planted too many times very early in the fall planting season to watch the seedlings die when they run out of water and even the deeper soil layers have none to support seedling survival. The less moisture in your soil, the more you will need to hold off until adequate rain comes.

Although there have been seasons when late October and even November plantings have survived and even thrived the next year, it becomes a large and expensive gamble to seed past the middle of October. Some of our cool-season grass species really need a 4 to 6 weeks interval between germination and a killing frost to really get established well enough to survive over the winter. Some older North Carolina no-till seeding research showed that smaller, younger seedlings survive best if seeded using a no-till drill versus conventional seedbed

preparation but even using a no-till drill I would hesitate to seed past mid-October. Keep in mind again that with the current seed prices you're making a very large economic gamble by trying to seed under less than ideal conditions.

One last note is that if you're planting one of the new friendly endophyte tall fescue varieties be sure to either store the seed in a cool, low humidity environment until you can seed or better yet return it to your dealer so you can purchase fresh seed whenever you do have a chance to plant under good to ideal conditions. The endophyte fungus of the new tall fescue varieties does have a limited lifespan especially if stored improperly in high temperature, high humidity environments.



Forage Bits is a publication of the Maryland-Delaware Forage Council. It is compiled and edited by Ben Beale, Agricultural Extension Educator-St. Mary's Co. and Richard Taylor, Extension Agronomist, University of Delaware. Please send any comments, questions or submissions to Ben at the St. Mary's Extension Office: PO Box 663, Leonardtown, MD 20650, fax 301-475-4483, phone 301-475-4484 or e-mail at bbeale@umd.edu

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To join the MDFC, send your name and a check for \$25, payable to the Maryland-Delaware Forage Council, to Kenneth Stonesifer, 141 Hilltop Drive, and Chestertown MD 21620. The Maryland-Delaware Forage Council is an affiliate of the American Forage and Grasslands Council. Members receive two publications-the Forage Leader and the Hay and Forage Grower.