## NRCS Award from front page

Demonstration farms are another key component of his outreach strategy to promote sustainable practice implementation. In 2010, J.B. began working with Shenandoah Valley farmers to launch a project promoting year-round grazing and reduce the need to feed stored hay. Many other demonstration farms have now been added throughout the state, and other initiatives followed to explore the use of annuals in livestock grazing systems and the silvopasture practice, which integrates forage grazing and forest production.

J.B. is a regular contributor to the VFGC newsletter, *The Virginia Forager* and helped create the highly popular Virginia Graziers' Planner distributed to approximately 4,000 agricultural producers and partners. He obtained outside grant funds to develop and distribute this calendar, which includes carefully chosen images of highly progressive management practices, along with monthly technical recommendations and reminders.


J.B. helped pioneer the use of rainfall simulators to demonstrate the damaging effects of runoff on pastureland. NRCS recently profiled one of his demonstrations in their "Science of Soil Health" video series and he hosted Virginia's Gaining Ground: Successful Graziers' Tell Their Stories movie, featuring four leading Virginia graziers and compelling demonstrations with the rainfall simulator. To date, more than 6,000

"J.B.'s extensive knowledge of pastureland management and ability to collaborate with partners has made him extremely effective in getting conservation on the ground and earned the gratitude of famers and colleagues alike," says State Conservationist Jack Bricker. "He can effectively communicate complex technical information and convey the soil and water quality impacts of grazing management while helping meet landowner production goals." J.B. holds B.S. and M.S. degrees in Crop and Soil Environmental Sciences from VA Tech. Prior to joining NRCS, he served as a Virginia Agricultural Extension Agent and an Environmental Specialist. J.B. was raised in Lunenburg County and now resides in Amelia with his wife and three children.

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## 2016 Spring Forage and Soil Health Field Day!

Join us at Swallow Hill Farm in Caroline County, Virginia on Thursday, April 14, 2016. Tim and Susan Tobin are hosting this field day as VFGC partners with the local Extension, SWCD and NRCS employees to conduct this forage and grazing event. The program will highlight how Tim is using specific forage species (annuals and perennials) to meet his production goals and build soil health in the context of a conservation grazing system. Featured guest speaker, Dr. Matt Poore, Extension Ruminant Nutrition Specialist from N.C. State, will emphasize practical methods for overcoming fescue toxicosis with the technologies available today. Follow this link to the website for more information and pre-register ASAP! http://vaforages.org/event/spring-forage-and-grazing-field-day/ .

*Tim Tobin, Swallow Hill Farm*





# Keys to Making Quality Hay

By: Phil Blevins, Scott Jessee, Andy Overbay, and John Fike

Hay production often is one of the most expensive aspects of grass-based livestock operations, and doing it well is critical to reduce losses and maintain forage quality. At the July 2015 Southwest AREC field day, the featured speaker Dr. Dan Undersander (U. Wisconsin) provided several important concepts to a crowd of about 170 producers interested in making the most out of their haying operation.

*(Left) Dr. Dan Undersander discussing hay production at the SW AREC field day.*

Undersander's talk focused on the biology of curing hay and how to best make that happen. The discussion started by exploring the biology of drying and the relationship between rapid drying and making quality hay and haylage. Plants generally are in the 75% moisture range at harvest, thus a two-ton/acre hay crop will have to lose 5 tons of water before it can be baled at 13% moisture. Slow drying rates are problematic. Following cutting, plants will continue to metabolize their highly digestible sugars and starches through respiration until plant moisture levels drop to about 40%. Thus, rapidly getting rid of plant water is important to prevent the loss of sugars and starches and to maintain quality. Although plant sugars are higher later in the day, the high temperatures and humidity of our region limit rapid drying. Thus, a late afternoon hay cut intended to capture more plant sugars often is more than offset by longer drying times and greater respiratory losses in our humid environment.

Most plant water in leaves exits through stomata (the openings that allow plants to take up carbon dioxide and to give off water when the plant is hot). Rapid drying occurs on leaves because of the large surface-to-volume ratio and their high number of stomata. Water loss from stems is more challenging, however, because stems have fewer stomata and often are covered in a waxy layer that reduces moisture loss. Thus, cracking or abrading through conditioning can be critical for getting plant stems to dry rapidly, and this will help support drying even when stomata close.

Undersander discussed four factors and their importance for hay drying: 1) proper mowing height, 2) proper conditioning, 3) wide swath width, and 4) minimizing leaf losses during raking and merging operations. We consider each of these factors below.

Proper cutting height is important both to maintain stand health and to allow air flow under the forage swath, which speeds drying. Many producers want to "get it all" and feel that mowing close allows them to maximize crop production. However, for forages such as orchardgrass or sudex, cutting close to the ground is a short-sighted strategy. These plants store reserve nutrients in stem bases, and removing these reserves can weaken stands. Along with maintaining stand health, keeping the forage up above the soil surface is important; if the crop is on the ground, it can both wick moisture from wet soil and absorb moisture from humid air near the ground.

Proper conditioning when mowing can reduce drying times by about half. Roll conditioners are considered best for legumes, while flail/impeller conditioners, which cause higher leaf loss from legumes, are better suited for grasses. Conditioners increase drying rates by crushing, crimping, and abrading stems; this creates openings for water to escape the plant. Care should be given to conditioner adjustment, which should be done on a crop-by-crop basis. Attention should be paid both to roll clearance – typically this would be 1/16th to 3/32nd inches, or just less than plant stem diameter for legumes such as alfalfa – and to roll pressure, which is the force required to separate the conditioner rolls. Heavier crops will require greater pressure, but excess pressure will increase leaf losses.

*Bale wrapping equipment being demonstrated at the SW AREC field day.*

Putting the crop down in a wide swath is considered one of the most important ways to speed drying. Swaths should be at least 60% as wide as cut width. When soils are wet, some producers lay their hay crop into a narrow swath and then spread the crop after allowing the soil to dry -– however, having the drier soil does not make up for the reduction in drying time associated with this practice. Laying the crop down in a wider swath reduces swath thickness and provides more surface area for sun exposure. Because a wider swath is less dense, it will not settle to the ground as readily, further aiding drying. Although wide swaths must be raked into narrower rows for baling (and this increases harvest cost), this step is a necessity for today's high-capacity balers. As well, the greater forage quality associated with rapid drying in wide swaths offsets the added raking cost. Although traffic over top of wider swaths can be a problem when using pull type equipment, this can be reduced by running only one side of the tractor over the swath.

Raking can be used both to speed drying by picking the crop up off of moist soils and promoting air movement

*Rotary and wheel rakes were among the equipment discussed at the SW AREC field day.*

*Quality Hay Page 12*

## Considering Summer Annuals: Plan Ahead to Improve Your Success

By: J.B. Daniel

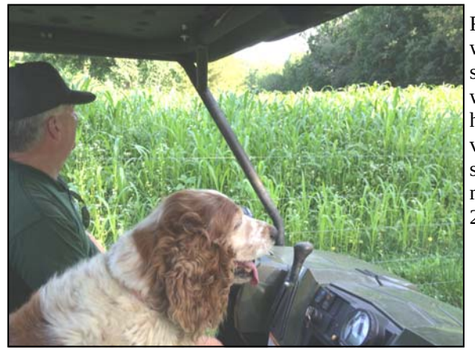
Summer annual forages have been an option used by many farmers over the years primarily to plant as a supplemental summer hay or silage crop. Grazing dairies have long been using various summer annuals to provide high quality and high yielding forage for grazing during the summer months when most of our cool season pastures are not as productive. In these situations, it is easy to see the financial benefit in the milk tank each day.

In the last few years I've seen more beef cattle producers planting summer annual forage mixes and using them for summer grazing. This has come about for several reasons including: 1.) Supplemental high quality forage to graze during the summer slump 2.) Something for the cattle to graze other than endophyte infected tall fescue and 3.) A short rotation to use in combination with renovating a pasture to kill out weeds and transition to a different perennial forage mix or 4.) To have an alternative forage for grazing when transitioning from late summer to early fall to provide some growing time for the cool season perennials as their fall growth begins.

Regardless of your reason for wanting to plant summer annuals, it is important to remember any time we plant a new forage crop it can be expensive. Therefore, you want to plan ahead to maximize your chances for successfully achieving your goal and in return getting your investment back in a high quality, high yielding forage crop for your livestock. Ask yourself the following questions before you begin.

- What is the primary purpose for planting an annual forage mix?
  - There are many different summer annual species to choose from including grasses, legumes and forbs, so once you identify the primary purpose for the summer annual it will be easier to determine which forages to plant. Some plant strictly for quick biomass, others want a productive legume in the mix and others may want high diversity to try and boost soil microbial activity.
- What is the target planting date to have forage available for grazing when I need it?
  - Most of the species used in the summer forage mix should be planted after the threat of a spring frost has past. This results in a May to early June planting depending on where your farm is located in the state.
- Do you need it to grow back after the first grazing or terminate for an early fall planting?
  - Some forage species naturally grow back after grazing while other do not.
- What is the realistic target yield for this summer crop?
  - If you are doing it low input and choose to rely only on the available nutrients in the soil then the yield will likely be lower. If you need to optimize forage production to get your investment back from this planting, then soil test the pasture in early April and apply the lime and fertilizer needed based on your soil test results.

I have worked with several graziers in different regions of the state over the last few years who have planted summer annual mixes for grazing beef cattle. After planting annuals in several situations, Mr. Ronnie Nuckols has learned to plan ahead to optimize his success. When double cropping annual forages people often try to maximize growth of one crop (i.e. winter annuals) while trying to drill the summer annuals into the remaining residue in May. Competition is a big factor that needs to be addressed prior to planting. "I have learned from my own experience that the remaining plant material and root mass, left after April grazing the winter annuals, continues to compete for soil moisture and nutrients. Without a burndown herbicide, I have experienced significant suppression during the establishment of summer annuals from competition," says Nuckols. In the annual, double cropping situation, Ronnie now targets the spring graze for maximum biomass before forage quality declines, then he chemically burns down the residue, drills the next crop and applies fertilizer as needed so the nutrients are there when the rain comes.



Ronnie was very satisfied with this high diversity summer mix in 2014

Another important item that needs to be considered is seeding rate. These annual forage mixtures are generally planted at higher rates than "cover crop" mixtures. Remember, the purpose for the forage crop is not just to cover the soil but to produce a high yielding feed for grazing at the same time. In some cases the total seed mixture may be planted at twice the seeding rate compared to a cover crop mixture, knowing that it is going to be fertilized to produce a high target yield. This varies depending on the species in the mix and the planting date within the target window. For assistance in planning species mixes and seed rates contact your local NRCS office or your agricultural consultant. You can also look on the next to last page of the 2016 VA Graziers Planner, near the bottom are four basic summer annual seed mixes for grazing.

Finally, when you enter the field with the drill make sure it is set to the proper seeding depth. Soil moisture conditions at the time of planting can influence how deep or shallow the seed are placed. For this reason it is important to drill a strip, then physically check the depth of the seed and make the necessary adjustments needed to ensure proper seeding depth before planting the whole field.

Annual forages are not needed in every production system. However, if you try using annual forages in your grazing operation this year, contact me to let me know your challenges and successes while using this as another tool to meet your production goals. You can send pictures and comments to j.b.daniel@va.usda.gov.

*J. B. Daniel USDA-NRCS Grassland Agronomist.*

## Upcoming Events

**Spring Forage and Soil Health Field Day**
April 14, 2016
Woodford, VA
www.vaforages.org

**2016 Grazing School**
May 2 & 3, 2016
McCormick Farm
Raphine, VA
www.vaforages.org

**VCA Annual Meeting & Convention**
July 8, 2016
McCormick Farm
Raphine, VA
http://vacattlemen.org

**AFGC 2017 Annual Conference-**
January 22-24, 2017
Hotel Roanoke and Conference Center-Roanoke, VA
www.afgc.org

## Corporate Sponsors

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*Old Idea Page 2*

dollars per year. As the silly TV commercial says, part of that "is my money and I want it now."

The further news is that the toxicity is not just in the seed heads. We have been advised to clip seed heads for years to reduce the problem. This is still a valid strategy. But the endophyte in fescue that causes the problem is a completely symbiotic life form dependent on the fescue plant. This endophyte does not have reproductive capability outside of the fescue plant. The only way to spread the endophyte is to spread the infected fescue. The symbiosis is complete because the thing that gives fescue its persistence and strength and character is the endophyte inside the plant. Management that makes the fescue stronger makes the endophyte stronger and anything that makes the endophyte stronger makes the fescue more toxic. But while the endophyte can only be spread by sowing infected seed, the endophyte lives in all parts of the plant, seed, stems and leaves.

With all that said, why on earth do we continue to have fescue as a part of our livestock programs? There are several reasons.

1. It is the hardiest forage plant (Because of the endophyte).
2. Animals select for it by grazing all other more palatable plants in preference.
3. It has tremendous growth and production.
4. It is the preferred forage for stockpiling and winter grazing in well managed grazing systems.
5. It will survive overstocking and mismanagement better than any other forage species. This is a critical reason why it is so dominant. It survives the poor management.
6. Fescue and Kudzu are two of the best conservation land covers that are available to us to stem and prevent erosion and to heal mismanaged land. Kudzu is at least limited by its intolerance to cold weather. Fescue is not so constrained.
7. Producers have voted by their actions that they are more concerned with the hardiness and persistence of the fescue than they are with the problems associated with the fescue.
8. A fear that time and money spent renovating old fescue stands would be wasted as the infected fescue is ubiquitous and would soon take over again.
9. And finally a resignation to what is perceived to be a lack of alternatives.

For at least the last twenty years I have been in the camp of mitigation. That is, I have tried every strategy I could implement to reduce the impact of the toxic fescue and improve my animal performance. These are still valid strategies and in my opinion are currently the very least that livestock managers should be doing. I have not been able to implement them in entirety because I have been dragging more tradition bound folks along with me.

Smoking is not the only bad habit that is hard to break. It has been my experience over the last 17 years working at the Hannover-Caroline Soil and Water Conservation District, that an ingrained agricultural habit can be every bit as hard to break as a nicotine habit. Maybe worse as the practitioner usually sees no valid reason to change what, in his mind, works.

What is mitigation? Mitigation is anything that can be done to make the existing situation better.

1. Dilution by adding clover.
2. Dilution by adding other species
3. Managed grazing
4. Supplementation
5. A strong mineral program
6. Seed head suppression
7. Performance selection for tolerance
8. Changing breeds of livestock
9. Adopting new forage species

This last strategy is one that several of our Cover Crop Project participants stumbled on over the course of our project. It was the use of multispecies cover crops for grazing. Both cool season and warm season cover crops had a good contributing effect for these producers. These cover crops are excellent quality forage that yield good gains and are particularly beneficial during periods of summer slump for cool season grasses. They provide an abundance of high quality forage that is without toxic effect. Several of these producers are increasing their Multi Species Cover Crop grazing acreage. Their thought process is that even though there is an increased cost for planting annual cover crops that the performance and productivity boost justifies the cost.

In our Next Issue, "now for the good news from the conference." You may also read Jim's entire blog article at http://wp.mw/p239CQ-rc .

*Jim Tate, Conservationist with the Hannover-Caroline Soil and Water Conservation District. Editor's note; the following is an excerpt from Jim's blog. Look for additional excerpt's in future issues of the Forager.*

To JOIN the *Virginia Forage and Grassland Council* a membership form can be found on the web at
http://www.vaforages.org
Contact Margaret Kenny at
vfgcforages@gmail.com or
call 434-292-5331





# Mob Grazing in Virginia: A Summary of Results

By: Ben Tracy

This article provides a brief summary of our recently completed work on mob type grazing in Virginia. The three year project was funded by a USDA-NRCS Conservation Innovation Grant back in 2012. Mob grazing involves stocking animals at very high density (e.g., >100,000 lbs live weight/acre), moving them quickly through pastures and then resting those pasture for long periods. In some mob grazed systems cattle might be moved more than once a day and those paddocks grazed once or twice a year, for example. Mob stocking is claimed to produce many benefits to pastures including:

1. Healthy soil, with high organic matter, water-holding capacity, and an abundance of microorganisms, earthworms and dung beetles.
2. An even distribution of recycled soil nutrients and organic matter across pastures from the intensive management of animal stocking density.
3. Desirable plant diversity with few weeds and consistent seasonal ground cover that will help builds organic matter and reduces soil erosion.

Although these are promising claims, there is little quantitative information about the potential benefits of mob grazing on Virginia pasturelands. To address some of these questions, grazing demonstrations were set up on two farms in Blacksburg and Raphine, Va. and data was collected from 2013 to 2015. Dr. Ben Tracy in the Department of Crop and Soil Environmental Sciences at Virginia Tech led the project with primary assistance from Drs. Cully Hession (Biological Systems Engineering), and Mark McCann (Animal and Poultry Science) also from Virginia Tech. The overall goal of this proposed project was to see how mob grazing compared with standard rotational and continuous grazing in affecting: 1) soil health indices (e.g., soil microbial activity) and basic fertility, 2) forage characteristics, and 3) soil erosion and runoff.

Mob pastures were grazed in May and September at a stocking density of ~130,000lbs live wt./ac. moving cattle every 12-24 hr. Rotational paddocks were grazed at 15,000 lbs/ac. moving cattle every 3-4 days. Cattle on continuous and rotation systems stayed on pastures from early May to November. Forage was sampled monthly for biomass and nutritive value and plant species composition was evaluated 3 times each year. Soil nutrients were measured within grids established in 2012 and re-sampled in 2015. Other soils were collected at the end of the study (2015) to evaluate soil health indices. Soil compaction (an index of soil health) was measured in spring of 2013 and 2015.

Overall, most indices of soil health (microbial activity, soil carbon, compaction) did not differ substantially among the three stocking methods. We did find an interesting trend with soil N availability though. With continuous grazing a disproportionate amount of manure is deposited around areas where animals congregate like waters. With mob grazing, animals have less opportunity to congregate in such areas and spend more time out on pastures. Our data suggested mob stocking may produce a more even distribution of manure across pastures since less N accumulated near watering areas. This difference may benefit plant growth more since manure derived nutrients are more directly available to plants and not wasted on bare ground near waterers. More forage also accumulated under mob stocking compared with the other grazing methods, probably because animals ate less grass as much of it was trampled. Forage nutritive value was usually higher under continuous grazing mainly because it promoted more white clover growth. Other than clover abundance though, mob grazing produced no major changes in plant species composition over the three years. Forage nutritional value appeared to progressively worsen each year under mob grazing though since grasses were allowed to get over mature repeatedly. Soil erosion and nutrient loss measured from rainfall simulations did not differ among grazing methods.

In summary, our study showed that although mob grazed pastures could accumulate more forage, its nutritional value may decline over the years. Grazing management, mob or otherwise, had minimal effects on soil health indices. The lack of grazing effect was probably related to the short duration of the study. Grazing effects on soil health may take 5-10 years to become apparent in our humid pasturelands. Overall in this short-term evaluation, mob type grazing appeared to offer few clear advantages to forage production and soil health over rotational grazing. Longer- term evaluations are needed to better understand how different grazing methods can truly impact variables like soil health. We will continue to monitor these sites as along as possible, but securing funding and resources for such long-term studies is always challenging. We will keep you posted though!

*Ben Tracy is in the CSES Department of Virginia Tech and serves on the VFGC Board as an educational advisor.*

## Meet Bobby Maass

By: Laura Siegle

Bobby grew up in Dinwiddie County, Virginia and has been cultivating an affinity for farming since his childhood. Like many young farmers who start their own operations, he built his vision from scratch starting with just one Hereford cow in 2004. Today, alongside his wife Alicia, he manages a high-quality commercial herd of about sixty cow-calf pairs on his farm in McKenney.

What sets Bobby apart from some of his peers, young and old, is his exceptional ability to manage the forages on his farm. When Bobby started the farm, much of the acreage that is now in pasture was unimproved or full of unproductive broomstraw. On the land he owns and rents, Bobby made improvements, built fences, and applied nutrients to fix fertility issues in the soil, using management to shift pasture composition in favor of tall fescue for his animals to graze.

Establishing grass can be challenging, but keeping a pasture healthy is a battle of its own. Livestock owners who overstock animals, run out of pasture, or allow too many animals to continuously graze one area can wear out their fields in no time. To combat this, many cattle producers including Bobby enact "controlled grazing" plans to maximize forage production, grazing efficiency, and plant longevity. Bobby subdivides his pastures into small sections with temporary fencing and rotates his herd to a new section of grass every few days in accordance with the speed at which the cows utilize the space given to them. "There's no formula to tell you how often to move them," he says. "How often I move them depends on the lay of the land, water sources, and other factors. You put something up, get a feel for how long it lasts, and go from there."

Bobby rotates the herd to new ground frequently to allow grazed sections to recover. "I hate to overgraze," he says. Plants that are overgrazed have limited opportunities to photosynthesize and rebuild energy reserves in their roots, and each time leaves are repeatedly clipped off by an animal, the plant expends more of its energy reserves to push out new foliage.

While Extension specialists recommend moving animals to a new field when the grass is grazed down to a height of about four inches, visitors to Bobby's farm in the fall will see that the spent sections in his pasture rotation have nearly a foot of leaf area left behind, sometimes more. A closer look reveals acres of uniform grazing, even manure distribution, and a manageable number of weeds. "Sometimes I think we like fescue a whole lot more than the cows do," he jokes, noting that his cows plunder any green weeds that they find palatable in the midst of all the grass.

Bobby employs the practice of "stockpiling" his tall fescue—in essence, leaving some sections ungrazed from late summer to late fall—so that there is a bank full of grass available for him to use as winter approaches. Cattlemen who are unable to stockpile forages must feed large quantities of hay to get their animals through the winter, and hay feeding is one of the most costly inputs that cattle farms in Virginia encounter. In good years, Bobby rarely feeds hay because his stockpile lasts throughout the entire winter. However, he maintains an insurance policy in the form of a barn full of round bales. "If you've got it and you need it, you've still got it. If you need it and you don't have it, you're in trouble. I think of hay like money in the bank," he says.

*It's never to early to teach them about rotational grazing. Bobby and Alicia Maass twin daughters, Carrie and Grace.*

Although Bobby minimizes his dependence on hay in order to control costs for his cowherd, he maintains a reputation as a producer of high-quality horse hay, a skill he honed in his early days starting the farm.

To read to complete article go to:
http://blogs.ext.vt.edu/central-virginia-ag-spotlight/2016/01/01/meet-bobby-maass/

*Laura Siegle Virginia Cooperative Extension - Amelia County, Agriculture and Natural Resources Agent*

## CJ Isbell and Keenbell Farm Revives Forage Producer of the Year Award

By: Chris Teutach

The 2016 recipient of the Virginia Forage and Grassland Council's ***Forage Producer of the Year Award*** was Keenbell Farm, a third generation family farm near Rockville, VA. The farm was originally purchased in 1951 by Joe and Kathleen Isbell. Now managed by Grandson CJ Isbell, the farm encompasses 230 acres western Hanover County. Of that acreage, approximately 100 acres is maintained in pasture. The pasture supports over 90 head of beef, over 700 boiler chickens and laying hens, and 50 hogs. The animals are pastured, grass-fed and intensively rotated. No growth hormones are used. Approximately 80 acres are dedicated to food-grade soybean production. The remaining land including rental land is used for growing non-genetically modified organism (GMO) grains. Currently the grain land is primarily used for livestock feed, but they plan to add food-grade grains for on-farm milling and sale in local groceries.

Keenbell Farm has a "buy local, buy sustainable" approach. CJ Isbell positioned the farm to capture the nearby Richmond, Short Pump and Ashland foodie population. The dedication to Keenbell Farm products has now grown beyond the Richmond Area foodies and encompasses a strong base of 400-500 customers that buy each week from the on-farm store, farmers market and Fall Line / Local Roots Co-op. They have expanded into the wholesale market by supplying Farm Table, a network of producers who deliver a box of produce straight from local farmers to a home or business each week during the harvest season. They supply Montague farms with food-grade soybeans for the Japanese market. They are also supplying well known stores including Elwood Thompson's and Good Foods Green Grocery.

The pastures are a mixture of improved grass and legume mixes which are supplemented by seasonal multi species cover crops. The Isbells have been involved in a District Multi Species Cover Crop project for over three years and have used the cover crops to accomplish several things. They began by using the cover crops as an interim step to transition fields that have been in continuous cash grain production for over twenty years back into pasture. They have used both cool season Multi Species Cover Crops and Warm Season Multi Species Cover Crops. They have had such good results when grazing the cover crops that they have made the decision to continue to use the cover crops on about 30 percent of the pasture acreage. CJ weighs the cattle regularly and while grazing summer cover crops document gains in feeder steers being fed for all natural slaughter of over 3.7 lbs per day on forage only. The feeder cattle are pastured with the cow herd. One herd moving thru the paddocks using single wire poly wire fence for divisions.



CJ and his family are dedicated to the future of agriculture in Virginia. Upon receiving his plaque and $500 cash award, he immediately donated his cash award back to the *Harlan White Scholarship Fund*. This fund provides scholarships to undergraduate and graduate students attending Virginia Tech that have an interest in forage agriculture. To learn more about CJ Isbell and Keenbell Farm, please visit their webpage at http://keenbellfarm.com/ or their Facebook page at https://www.facebook.com/keenbellfarm/.

## David Fiske Receives Harlan White Distinguished Service Award


*Jerry Swisher, Past President of the Virginia Forage and Grassland Council, presents David Fiske with the 2016 Harlan White Distinguished Award at the winter forage conference held in Weyers Cave.*

The 2016 recipient of the Virginia Forage and Grassland Council's Harlan White Distinguished Service Award was David Fiske. This award is given in recognition of outstanding leadership and devoted service to the forage and livestock industries of Virginia. David is a native of Loudon County where he grew up on a family dairy farm near Aldie, VA. He graduated from the University of Nebraska-Lincoln with a BS in Agriculture and an MS in Agricultural Economics.

*Service Award Page 11*

## *President's Message*

"**OUTSTANDING**" would be an understatement when looking for a word or two to describe this year's Forage Conferences held last month. We had right at six hundred people attend the four sessions held across the state. The success of a venture such as this can be attributed to many things. First, it is very evident that the subject of "Tall Fescue Toxicity" was certainly a topic of interest to all those who attended. Second, the nationally prominent speakers on the subject brought a knowledge base and credibility second to none. Thirdly, and certainly not least, was the dedication of all the volunteers who assisted in putting this statewide effort in place. To everyone, that had a part with this effort, whether it big or small, the Virginia Forage and Grassland Council says a wholehearted "**THANK YOU**".

Congratulations are certainly in order for C.J. Isbell for being selected as the Outstanding Forage Producer. CJ also represented VFGC in the Forage Spokesperson contest at the American Forage and Grassland Council Meeting held in Baton Rouge, Louisiana. CJ placed second in a highly contested competition. Great Job CJ !!!!

With that said, there is no time to rest on our laurels. VFGC is already planning several activities for late winter, spring and summer. The next events will be our Advanced Equine and Forage Management School and our upcoming 2016 Grazing School. We will also have a couple Field Days that will highlight forage strategies being implemented on our Conservation Innovation Grant (CIG) farms. We have four of these demonstration farms across the state.

So as you can see, we are busy trying to continue our efforts towards providing strong production information to you the producer. To gather more knowledge about these events, you can find further information in this and upcoming newsletters. You can also find more details by also visiting our website at vaforages.org.

Just as the start of spring comes upon us, it is time to begin a new growing season. Equally so, it is also time for VFGC to continue our work. We promise to maintain a forward and positive direction with our mission to provide useful information that you the producer can continue to use and benefit from.

Until next time,

Jon Repair
President, VFGC

# Reconsideration of an Old Idea

By Jim Tate :

One of the hazards of living a long time is that people tend to become confident in their accumulated knowledge, and subsequently complacent and resistant to change. I am as subject to this as anyone else. Sometimes I hear of new ideas and summarily dismiss them because they do not fit my accumulated conventional wisdom.

Occasionally, I have my belief system successfully challenged. Such an incident recently occurred at the 2016 Virginia Forage and Grassland Council winter meetings.

The topic of the meeting was Understanding and Managing Tall Fescue in Grazing Systems.

I have been dealing with tall fescue for most of my life. For the last 30 years or so I have been trying to manage the good parts of tall fescue and also trying to manage around the problems of tall fescue, and thought I had a pretty good understanding of how to manage around them.

Like so many others, I thought I was doing okay. I was not losing ears to frostbite. I was not losing tail switches. I had never even seen a case of fescue foot but knew it was horrible. My cows were breeding back. My calves were pretty vigorous and with thirty years of selection for growth and performance they would step on the scale pretty hard.

Yes, in the summer time they would all be in the pond (until we fenced the cattle out of the ponds and streams for the environmental good). After that they would fort up in the day time in the woods and create mud wallows like hogs. I thought this was normal. I had seen black cattle avoid summer sunshine all of my life. One of my concerns to this day is that when we fence cattle out of streams we are often fencing them out of shade as well.

I could identify the couple of poor doers every year who did not shed off and who seemed to suffer more than their herd mates. Eventually those rough haired and poor doing cattle would usually sort themselves out and leave the herd. On that basis I was pretty sure there was a genetic component to dealing with fescue toxicity. This genetic component was identified a few years ago but testing was not commercially available.

What I did not know was how much the entire herd was having performance squashed by the effects of fescue toxicity. At the VFGC winter meetings the leading researchers on the topic from across the Fescue Belt, presented side by side comparison of the animal performance stolen by the toxicity. Things like calving percentage, milking ability, direct weaning weights, rebreeding conception, depressed calf gain are estimated to cost cattle producers in the Fescue Belt over a BILLION

*Page 4 Old Idea*



## *Tall Fescue From Front Page*

The day began with a summary presented by Matt Booher and John Benner, Extension Agents in Verona, VA. These agents presented a summary of the sampling and testing results from twenty-five farms throughout the Shenandoah Valley and revealed just how infected Virginia pastures are and the high level of toxic alkaloid that was found in most of their samples. The summary concluded that 95% of the pastures tested had 80-100% endophyte infection, with most of these pastures having high concentrations of the toxic alkaloid (> 1,000 ppb).

After that discussion, Dr. Glen Aiken, a lead researcher at USDA-ARS at the Forage Animal Production Research Unit in Lexington, KY, explained the impact of the toxic alkaloid on the grazing livestock. He explained when the infected fescue plants are ingested by livestock, the ergot alkaloids cause blood vessels to constrict, reducing sweating and that greatly limits the animals' ability to regulate body temperature so they overheat. Researchers have determined this vascular restriction occurs in less than 2 days after livestock are fed low levels of ergovaline (400 ppb). With continued feeding, the blood flow continues to reduce. Results further showed that it takes 35+ days off non-toxic fescue before the ergot alkaloids are flushed from the vascular system allowing blood flow to normalize.

Dr. Craig Roberts from the University of Missouri described a newly developed genetic testing technique (T-Snip) used to identify and select for livestock tolerance to fescue toxicosis. He explained the newly available T-Snip test and how it can be used to identify tolerant animals and their significant production benefits of improved dry matter intake and weaning weights compared to susceptible animals in the herd. More on this test can be found on the AgBotanica website (www.agbotanica.com).

Later Dr. Joe Bouton, of Boutons Consulting Group, LLC, explained how over the last few decades the forage industry has developed several varieties of tall fescue infected with non-toxic endophyte. These "novel" endophyte tall fescues have all the desirable characteristics of 'Kentucky 31' without the toxic effect to the livestock. So the technology is available in these new varieties however very few acres are being converted each year. This resistance is mainly because of the thought of having to kill the existing stand and the added cost of the novel endophyte seed. The novel endophyte fescue varieties commercially available (listed alphabetically) for use include: BarOptima E34 Plus, Estancia ArkShield, Jesup MaxQ, Martin 2 Protek, and Texoma MaxQ II.

Most of us thought we were managing the negative impacts of fescue toxicosis by way of dilution with legumes, suppressing seed head development and timing of nitrogen applications. The research results presented at this conference showed that as an industry, we are not mitigating the impacts of fescue toxicosis as well as we thought. Although the on-farm losses are mostly hidden, they are significant according to these direct comparisons of milk production and weaning weights in livestock managed on toxic endophyte versus novel endophyte fescue systems.

The result of this conference series left producers facing one of two management categories: 1. To use the known management strategies and new testing technologies for mitigating the effects of fescue toxicosis or 2. To kill and replace the toxic endophyte fescue with a novel endophyte variety. These two options are explained in greater detail in a later article.

As with any problem or challenge in your livestock operation, the most important first step is to be aware of the cause and effects leading to your current situation, then to clearly understand the available options for overcoming the problem and selecting the one that best fits your specific situation. Almost everyone who attended this fescue conference left the meeting with a new perspective on the impacts of toxic endophyte fescue and the opportunities for mitigation or strategic replacement of this grass in their pasture systems.

For all the details supporting the presentations of this winter conference series you are encouraged to contact Margaret Kenny to purchase a written copy of the conference proceedings for $10 including shipping.

*J. B. Daniel USDA-NRCS Grassland Agronomist and serves on the VFGC Board.*

## *Service Award Page 3*

David has served as the treasurer of Virginia Forage and Grassland Council for more than decade, leading the VFGC from a weak to very strong financial position. This has enabled the VFGC to design and implement award winning educational programs and field tours. In 2014, the VFGC was recognized as the American Forage and Grassland Council's Affiliate Council of the Year. David also recognized the need to improve infrastructure for grazing systems in Virginia. He along with the help of an industry colleague designed and implemented the VFGC Fencing Schools that have been held in all regions of the state. These schools have given producers and agricultural professionals the knowledge to design and build fencing systems that stand the test of time.

David currently serves as the Superintendent of the Virginia Tech Shenandoah Valley Agricultural Research and Extension Center in Steeles Tavern, Virginia. In this capacity he supports ongoing research and extension programming that benefits forage and livestock producers in Virginia and surrounding states. In addition to his professional work, he also serves as the treasurer of the Raphine Volunteer Fire Company. Please join us in congratulating David and thanking him for his devoted service to Virginia's forage and livestock industry. David can be reached at (540) 377-2255 or dafiske@vt.edu.


David Fiske and fellow board member Marnie Caldwell.

VIRGINIA FORAGE AND GRASSLAND COUNCIL
3599 Indian Oak Road
Crewe, Virginia 23930

Spring Field Day
April 14th
See Page 6

*Quality Hay Page 3*

through the windrow and to slow drying (where drying is occurring too rapidly) by bunching the hay. Care also must be given to moisture levels; raking when the crop is too dry promotes leaf shatter, especially for legumes, so raking early in the morning can be a useful strategy to reduce these losses. It also is important to minimize soil collection in the windrow when raking, so the rake's tines should be set to limit soil contact. Tedding – lifting and spreading the crop to improve air circulation – can also improve drying, but this benefit is lower when wide swaths are used and when trying to dry hay under humid conditions. Tedding's benefits in terms of increased drying rate and ability to bale sooner (to prevent being rained on) must be weighed against the cost of the added step and the potential quality losses due to leaf shatter, particularly for legumes.

Baling as close to full capacity as possible for the baler is important for reducing energy and labor costs and reducing equipment traffic on the forage stand. Having the windrow as wide as the baler pick-up also helps keep the hay distributed in the chamber, creating a more uniform bale. Of course, baling at appropriate moisture is essential to prevent spoilage or loss by fire.

*Phil Blevins, Extension Agent Washington County; Scott Jessee, Extension Agent Russell County; Andy Overbay, Extension Agent Smyth County; and John Fike, CSES Department at Virginia Tech.*



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## Daniel Receives National Award for Pastureland Conservation

*Left to right) J.B. Daniel, NRCS National Rangeland Management Specialist Sid Brantly and AFGC President Gary Wilson.*

Richmond, VA, February 10, 2016 – Native Virginian J.B. Daniel recently received the American Forage and Grassland Council's Pastureland Conservationist of the Year award for his exceptional education and outreach to promote sustainable grazing practices statewide.

This annual award recognizes a Natural Resources Conservation Service (NRCS) employee who has exemplified outstanding service to the agency, our clients, and the science of grazing land management. Daniel received this recognition for excelling in five categories: communication, training, partnerships, conservation application, and job complexity.

As the state's Forage and Grassland Agronomist, J.B. is committed to education and outreach. He serves as an advisor to the Virginia Forage and Grassland Council (VFGC), providing key support to the annual VFGC winter conference series with an annual attendance of more than 500 producers and grazing advisors. He also spearheaded the development of the "Beginning Grazier School," a multi-day, immersion-style training course on management-intensive grazing.

*NRCS Award Page 6*

## Tall Fescue: An Old Challenge with New Opportunities

By: J. B. Daniel

The 2016 Virginia Forage and Grassland Council winter forage conference series has concluded with a total of over 600 participants attending one of the four meeting locations throughout the state. Many people may wonder, "How do you draw a crowd of over 600 people to an indoor conference about tall fescue?", after all, everybody knows about fescue. Well, by the end of the week when all the farmers returned to their communities and told their neighbors about what they had learned, I estimate there were another 1200+ farmers who wished they had invested the $35 and one snowy January afternoon to learn first-hand what they had missed.

Like most of you, over the years I had learned much about tall fescue and the potential negative impacts of the alkaloids produced in fescue plants that were infected by the endophyte fungus. We have also been told that most of the fescue in Virginia pastures is infected with this fungus but rarely do we see the devastating effects to the production losses in our livestock systems. The combined annual losses related to the detrimental effects of fescue toxicosis are estimated to be $1 billion to the livestock industry! Yep, a billion with a "B".

Most of these losses go unseen to the average producer. I equate it to annual soil loss via sheet erosion on a crop field. You generally don't see or notice when the soil is leaving the field because it is gradual, it happens over time. Likewise, most farmers don't have cattle with noticeable symptoms of fescue toxicosis (ie. frost bit ears and loss of tail switches), other than labored breathing and cooling themselves in streams or ponds during the spring, summer and fall months. But the combination of research results presented by the scientists, Extension Agents and forage specialists throughout the greater fescue belt was eye opening to everyone in attendance.

*Tall Fescue Page 11*

### *INSIDE THE VIRGINIA FORAGER*