

Native Warm Season Grass Tour

By: J. B. Daniel

The VFGC Native Warm Season Grass tour held on July 17, 2013, in Augusta County brought out farmers, conservationists, wildlife enthusiasts, and private contractors on a hot summer day in the Valley. It was an interesting mix of about 70 people from all different backgrounds but “grass” was the common thread bringing everyone together.

The tour began at Bellevue Farm where Charlie Drumheller and his son Bobby explained how they have used plantings of switchgrass mixed with big bluestem to complement their grazing operation with the option to hay depending on the season. This year Charlie is using temporary electric fencing and portable water troughs to manage grazing the NWSG mixture with a higher stock density in small strips of forage across the 13 acre field. Forage quality samples collected and analyzed the week prior, showed crude protein (10.5%) and total digestible nutrient (60.5%) levels surpassing the needs of the lactating beef cattle in this field.

The remainder of the program was at Buck Hill Farm, where Dave Horn and his family hosted the participants for lunch and a tour of his NWSG’s. Dave explained how they had identified land many years ago that just did not have the productive capability to support corn or forage crops comparable to most of the farm. This acreage was established to a mixture of big and little bluestem primarily for wildlife purposes about 13 years ago, but it is generally grazed once per growing season and then allowed to regrow for wildlife cover. Over the winter Dave enjoys introducing youth to quail hunting on his native warm season grass acres.

Aaron Tammi, a local Custom Planting Contractor, discussed the importance of proper planning and field preparation prior to seeding NWSG’s. Dr. John Fike, Va Tech Forage Agronomist, as well as herbicide company representatives emphasized the importance of annual grass and weed control at establishment, giving examples of both chemical and mechanical control strategies.

The attendees learned over the course of the day that NWSG’s offer many benefits to a farm enterprise including grazing.



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Dave Horn explains to the group how he uses NWSG for limited grazing and wildlife habitat on his farm.

haying, buffers for streams, habitat for various wildlife species, poultry bedding, biofuels, and recreation opportunities such as hunting and bird watching. Farmer attendees networked with industry reps, local farm suppliers, contractors and conservationists, as ideas were exchanged and plans were being formulated for future NWSG plantings by participants.

If you are interested in planting NWSG’s on your farm or would just like to know more about how they might fit into your farm system, then contact your local Natural Resources Conservation Service office. They are a great resource for technical assistance and planning for NWSG establishment and there may be some financial assistance available to help you get the grass established.

Special acknowledgment goes to the Chesapeake Bay Foundation and the National Fish and Wildlife Foundation for grant funding supporting this educational meeting.

JB Daniel is with the SDA NRCS and also serves on the VGFC board.



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VFGC Grazing Dairy Field Tour

The VFGC along with its partners, the Peaks of Otter SWCD, USDA-NRCS, VCE, and many others, will host its annual Southern Piedmont Summer Field Tour at Dawn Dairy in Bedford County. Mark your calendar on August 29, 5:30-8:30 PM and come participate in the most interesting and educational program you will find anywhere on the east coast. The Tour will feature the following topics:

- Forage species selection and management to provide high quality forage to the lactating herd
- Grazing system layout, infrastructure components and ease of management
- Nutrient management and its advantages in a grazing dairy system
- Herd health: parasite management, hoof health and overall longevity

Dawn Dairy is operated by Mr. Tommy Watson and his family. The Dairy is 64 years old and was started by Mr. Watson’s father, Peyton and Uncle Tom Watson. In the late 1980’s, Mr. Watson made the decision to transition from a silage-based dairy to a grazing system due to crop failures and a belief that he could farm the land to be more profitable and conservation friendly. Since this transition was complete in 1992, Dawn Dairy has since been recognized as a Virginia Century Farm, a Grand River Basin Clean Water Farm recipient for the Roanoke River (1998), and was awarded the Virginia and Forage Grassland Council Outstanding Forage Producer of the Year Award in 2000.

Since 1992, Mr. Watson has seen his herd size more than double due in large part to his cattle being healthier and living longer from being able to graze. Currently, the farm consists of maintaining an average of 140 lactating cows, 30 dry cows, 60 un-bred heifers, and 20 bred heifers year round on pasture.

The dairy operation features 318 acres of pasture and of that 80 acres are intensively managed and grazed by the milking herd. An additional 180 acres of hayland is used to produce haylage. The intensively grazed acres feature cool season and warm season perennials inter-seeded (No-Till) with small grains and brassicas during the fall, and inter-



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seeded (No-Till) with summer annuals ranging from Sorghum, Sorghum-Sudan, Sudex, in the spring.

Mr. Watson also implements nutrient management practices to assure the proper level of nutrients are applied to the lands that need them in order to cut down on fertilizer needs. For more information on this field day contact Scott Baker at 540-586-7675 (scbaker@vt.edu), or E.B. Watson at 540-587-7645 (eb.watson@verizon.net).

When: August 29, 2013 from 5:30 until 8:30 pm
Where: Dawn Dairy, access farm from Zuni Drive, Bedford, VA.
When: August 29, 2013 from 5:30 until 8:30 pm (on-site registration begins at 5 pm)
Cost: \$10 pre-registration, call and pre-register to reserve your meal!
Pre-registration: Call the Bedford County Extension Office at 540-586-7675.
Directions: From Rt 460: Take Rt 43 North and drive through the town of Bedford. Just outside town take a left onto Rt 678 (Parker Road), then travel less than a mile and turn left onto Zuni Drive. Follow Zuni Drive until you enter the pasture at the parking area.).



Cows grazing summer annual grasses at Dawn Dairy in Bedford County, Virginia.

Stockpiling Tips

Stockpiling tall fescue can significantly reduce winter feed costs for cow-calf herds in Virginia. The following steps will help to optimize your stockpiling program.

- Choose a strong tall fescue sod in a field that is well drained
- Clip pastures that will be stockpiled to 3-4 inches prior to applying nitrogen.
- Apply 60-80 lb of nitrogen per acre in mid to late August. Allow growth to accumulate until mid-December before grazing.
- Graze stockpiled pastures that contain legumes first.
- Strip graze tall fescue to maximize grazing days.
- Frost seed legumes on grazed areas.

By: Carl C. Stafford

Buy hay while the sun shines, an adage that may help us understand that hay will most likely never be any cheaper than at harvest during a surplus year. This year is stacking up as one for the hay production record books here in the Northern Piedmont of Virginia. Buyers seem to have many choices of cow quality hay, but horse quality is in short supply, thus buying now makes sense.

2013 is an abnormal hay year, with a large hay crop but of poor quality. Cattle producers should consider buying cow-hay at good prices to be prepared for future short years or to build a surplus supply.

There is one exception to buying hay during the growing season in the Northern Piedmont. Some farmers make it through the winter with surplus hay in storage. To make room for a new hay, the remaining hay from the previous year needs to be removed from storage. Thus, local markets can offer cow quality round bales at competitive prices in the spring. However, you may have to bid cow-hay away from the Pennsylvania mushroom market looking for a cheap feedstock for their fungi. So prudent hay buyers have 2 options for buying hay to meet their feeding needs without the capital investment in equipment to harvest their own hay.

The finances and costs of making hay have been in this newsletter and I will not attempt to cover the subject to the extent they did. However, something did stick with me when reading their work, and I share these bottom line points. One key point, fertilizer value in a ton of hay. When fertilizer was at its peak in 2012, a ton of hay removed \$90 worth of fertilizer from the land. Today it seems this cost has moderated to about \$70 per ton of hay. Farmers need to know how many nutrients a ton of hay removes and the costs to replacement these nutrients. Conversely, when buying hay, the fertilizer value of the hay imported to the farms pastures.

Consider, if we remove \$70 worth of fertilizer per ton of hay and there are 3 round bales in a ton, then the approximate fertilizer value per bale is \$24. Is this a high price for buyers - some will say yes. Is this a high price for the sellers, some will say yes. Is this a fair price for the fertilizer value in the hay? You be judge using your own numbers, but soil nutrients will need to be replaced to keep the land in a sustainable/productive condition.

Charging enough for hay to replace lost fertility and to cover equipment costs, labor, land, insurance, and taxes will push hay costs even higher. \$30 per bale of hay is just starting to compensate for the true cost. A buyer will decide what they can pay and most choose to buy during a surplus time of year. Understanding the true costs and benefits of selling and buying hay will help improve the bottom-line of the farming business.

Carl C. Stafford is an Extension Agent, Animal Science, Culpeper County.

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Silvopastures Page 3

Silvopastures can be created either by thinning and pruning existing timber stands or by planting trees. Silvopastures in the U.S. are most common in the Southeast, where livestock are managed along with pines. Adoption is on the rise in Virginia as potential benefits shown in early research, along with increased extension efforts and addition of silvopastures to the list of accepted NRCS conservation practices all contribute to greater awareness of these systems. Persons interested in these systems may want to check out the publication: **Considerations for Establishing and Managing Silvopastures** which can be found at <http://www.plantmanagementnetwork.org/pub/fg/review/2004/silvo/>

So what does all this have to do with Soggy Sweat's quote? Well, if your definition encompasses a muck hole under a solo tree, or the wood lot degraded by years of turning in the cattle without management...then you haven't got a silvopasture. But, if you mean the integration of trees in pastures (or forages under trees) in systems that allow producers to better use land and protect resources, then indeed you've got a silvopasture.

John Fike is Associate Professor in the Crop and Environmental Sciences Department of Virginia Tech and educational advisor tot the VFGC.

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 Southern Piedmont AREC

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 Hilton in Memphis, TN.

2014 VFGC Winter Forage Conferences
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Marnie Caldwell Rockbridge Coop. 645 Waddell St. Lexington, VA 24450	J. B. Daniel NRCS-Forage and Grassland 100-D Dominion Drive Farmville, VA 23901
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MANAGING EDITOR, VA FORAGER & ADMIN ASSISTANT Margaret J. Kenny 3599 Indian Oak Road Crewe, VA 23930	

Growing More Grass

By: Blox Daugherty

Are We Farming Backwards?

Now I don’t mean to offend anybody, but if you look at how we farm and sit back and think about it, and keep a sense of humour about it, you’ll have to agree with my twisted brain and accept that sometimes we all just farm backwards.

Most cattlemen graze all summer and feed hay in the winter. Now if you are like the majority in Virginia, you have a fescue based pasture that in the winter can stockpile some really good forage, but in the summer is so infected with endophyte fungi that it is a toxic poison. So why not graze in the winter, when the effects of the endophyte are reduced, and feed hay in the summer when the pasture is toxic? When I heard Bob Hender-shot make such a comment back in March over in Morgantown, I hit myself up side my head and said to myself “Dang, why didn’t I think of that? He’s really got a good point there!” It makes perfect sense from the cow’s perspective. We all know about stockpiling fescue. Maybe we just got the whole winter hay feeding – summer grazing thing backwards.

Most cattlemen run a bush hog to make things look nice sometime in late summer or more commonly in the fall, some-times just to please a landowner who wants the place to look nice. Now we all know that at that time of year, the annual weeds (ragweed and spiny amaranth) and biennial weeds (thistle and poison hemlock) have all gone to seed, the perenni-al weeds have done their thing and stored up all of the sugars down below in their roots that they will use the next season to once again make us miserable every time we look at them. (Let’s face it. Most of us think they are ugly, even if they have nice flowers.) If you think about it, the time to run a bush hog is about May 15, when the danged old fescue starts to shoot a seed head, through about June when that seed becomes viable. And if we mow about that time we can clip a bunch of seed heads off of the weeds as well. And also about that time, a lot of the perennials are starting to bloom (think dogbane), and we can zap them and make them use up some of all that sugar in their roots as they start their growth process all over again, thus making them weaker and not stronger. So when I think about our typical use of the bush hog in the late summer and fall vs. doing it in late spring or early summer, I think maybe we got it backwards.

For those of us who are willing to spray to control weeds, it’s not uncommon to notice the tall unwanted plants until *after* they can be seen from the pick-up truck, and then go to the store and get some herbicide or call the applicator to come out and spray the field. So traditionally, during the late spring or hot summer months we do weed control with the sprayer, and often times this amounts to no more than revenge killing. Now we all know that we are going to see the same junk out there this year as we saw last year (unless of course we took some action last year). Granted there are some “summer weeds”. But in reality most of the weeds that we spray for in Virginia are

species that we should be spraying in early spring (March and April) and in the fall (September or October). Now I do have an inside track on weed control and have done all of those plots over the last five years. That’s why I often tell folks that the best time for most of us to spray pastures is in the fall. And my favorite day is on October 15th. There has been a shift lately to do more in the fall. But I generally think that most folks believe that that should spray grasslands in the spring and summer (and bush hog in the fall). In reality, the preferred approach would be to spray in the fall (and bush hog in the spring). So, I think maybe we got it backwards on this issue too.

This spring was another one in which the number of hay making days in May was minimal, at best. Now everybody knows that grass hay should be made just before the majority of the plants are in bloom in order to get the best nutritional quality as well as the best yield. Well for most of us this is about May 6 to May 10. If you look at the ten year weather patterns for our area there are very few years where the grass could be cut at the end of the first week of May and be baled without getting rained on. So what happens is that we wait and wait, and then put up hay that is more mature than we would like (sometimes it’s close to straw) and no-where near as nutritional for the livestock as it would be if it had been grazed. Then, for the next go-round, we turn the cattle on it for pasture. Now to me, it would make sense to graze the field first, get that maximum nutrition into the cows, then let it re-grow and make some nice blade hay at maximum nutrition-al value in June when we know we are more likely to have some good hay making weather. Just another thought on how maybe we got it, you guessed it, backwards again. (Actually, I have met a cattleman who does this. He calls it “flash graz-ing” and stocks the hayfield for a three day graze, and then makes his hay after he gets the desired re-growth.)

I really can’t say how many times that I have heard cattle-men remark that they don’t do anything to a pasture but will manage (to some extent) their hay land. Now if you look at the cost of feeding a cow on pasture or the cost of feeding hay, it makes sense that the more you graze and the less hay you can feed, the lower your annual feed cost is. The pasture is where you really make the money. The hayfield is really where you satisfy your desire to run that big green tractor and sing that country song about it, but it sure isn’t where you make your money with cattle, because feeding hay is the most expensive and time consuming way to feed a cow. To each his own, but I think a lot of folks got it backwards when they focus on the hayfield and don’t focus on the pasture manage-ment.

The common practice for fertilizing grass, which for most means fertilizing the hayfield planted to cool season grasses, is to put the fertilizer on in the spring. The old time studies and recommendations supported this, according to an internet search on the subject that I did a few weeks ago. But also in that search were some comments that leaned a different way, admitting that the sports turf folks who have more recently researched the timing of fertilizer, specifically nitrogen on grasses, have got it right. And they say that 75% of the nitro-

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nitrogen to be applied should go on in the fall (along with all of the phosphorous and potassium). Now in the VFGC Graz-ing Manual, published many years ago, there was a nice article about split applying nitrogen in October and March vs. putting it all on in the spring (in March). The research was done at VT by Dr. Mark Alley. The bottom line was that the yield increase from the split application (SAME total amount of nitrogen fertilizer) was almost DOUBLED. The standard lawn protocol for a cool season grass is that if you are only going to fertilize it once a year, put it on in the fall. So why, now that we know that cool season grasses really need some nitrogen in the fall, are we still in a spring rush mode to go crazy spreading fertilizer on grasslands every spring? And a season like this spring even highlights the spring rush frenzy even more, because the applicators couldn’t get enough de-cent days to get the field work done. Wouldn’t it make more sense to focus on row crop applications in the spring (there’s not another option) and focus on grasslands applications in the fall? We certainly would have a better chance for all of the field work to get done in a more timely manner, eh? So re-garding spring applied fertilizer on grasslands vs. fall applied, I think a bunch of it, but maybe not all of it, is just sort of backwards. The bulk of it should be fall applied. That’s what the grass wants!

With the exception of the southeastern part of the state, most of the grasses that we use for forage are cool season per-ennial grasses: fescue, orchardgrass, bluegrass, ryegrass, smooth bromegrass, timothy, etc. If I’ve got it right, the only native on the list is the bluegrass, with the others being im-ports, which we have learned to work with. In pastures, this reliance on cool season grasses means that we live off of that spring growth period. That is our bread and butter, even if we are able to manage things year round by stockpiling, rotational management, proper stocking rates, etc. In an ongoing study at Steele’s Tavern, on cool season pasture grasses, it was learned that the quality of pasture can support a dry cow at any time of the year, but it can adequately support a lactating cow only in the spring. That also means some limitations on fin-ishing beef, except of course, in the spring. Now think about what was here when the buffalo roamed (and what they roam on still today). Those grasses were mostly warm season spe-cies. Eastern Gamma grass (my favorite) led the pack. If you think about the cow-days available on a stand of Eastern Gam-ma vs. that short stuff we call summer cool season pasture it will just hit you right between the eyes. If you think the guy who loves that warm season grass called johnsongrass for his cows is nuts, because it’s a weed, follow him to the bank and you will see it differently. Granted neither of the last two mentioned grasses will survive in a continuously grazed pas-ture, and our overall insistence on that type of grazing man-agement (or lack thereof) has led to their demise as far as for-age is concerned. (And for the record, johnsongrass is not a weed in a pasture.) So why all of the focus on cool season imports and only a little attention, in general, to the native warm season grasses? Most backgrounders graze in the sum-mer. Why do they need cool season grasses when the warm season stuff (Red River Crabgrass anyone?) could produce a lot more pounds of beef per acre? I’m not saying plow up all of the cool season grasses. I’m just suggesting that a lot of us have the cool season – warm season focus about a hundred

and eighty degrees opposite of what it should be.

Only one more topic to go, and that is how we look at fenc-ing. Our conventional thought is that we fence to keep our live-stock IN. That is, to confine them to a particular spot, such as a field or just within the boundary of the whole farm. Have you ever considered that it is just as valuable to think of fencing as a way to keep the livestock OUT? Cattle have a real destructive nature that causes them to destroy just about everything within a fence. They will select out and eat all of the desirable forage to the point where it gets so weak that it can’t compete with the less desirables. That means lower quality grass, more weeds and more brush (more junk). They will step on their food and make it inedible. They will urinate and defecate in one spot causing that area to have concentrated nutrients and grass that they will avoid. (Wouldn’t it be nice to have that ‘fertilizer’ spread more evenly across the farm?) They will make path-ways across the pasture which soon are void of plants, and then erosion starts to take the soil off of the farm. In other words, by fencing cattle IN, the productivity of a pasture drops to half of what it once was, or less, as the quantity and quality of the for-age declines. Now if you think back a couple hundred years ago when the country was being settled, folks used fences to keep the livestock OUT of the garden and the tobacco field and the corn patch. So my appreciation of the value of fencing ani-mals out from where we want them to roam and eat is not new. As a proponent of “grazing management”, I have realized that the backbone of that system is not in keeping animals in. It is instead all about keeping animals OUT: keeping them out from where the forage for the next weeks’ and months’ grazing is re-growing; keeping them from grazing too close and creating erosion problems; keeping them from selecting and eating only the most desirable forage; keeping them from destroying their home, etc. I think a lot of you have started to realize these things, and it all starts with fencing the livestock *out*, not *in*. Keeping them on the farm is the same as keeping them OUT of your neighbors’ farms. So if your only concept of fencing is just to keep animals in, I think you have it backwards because there’s a whole lot more to be gained by keeping them *OUT*!

Well that’s about enough for now, and thanks for putting up with me. My goal in writing this is to just get folks thinking, and then doing, some things that make sense from the view-point of the grass, because if you love your grass you will have less to worry about regarding the livestock. That’s because the grass will take care of them and make your job easier.

Blox Daughtyer is with Dow AgriSciences and also serves on the VFGC Board as an industry representative.

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Stockpiling Reduces Winter Feed Costs

By: Peter Callan
Virginia Tech 2011 livestock budgets show that winter feed costs comprise 60 percent of expenses for fall calving cow/calf producers who feed hay during the winter months.⁽¹⁾ One way to lower feed costs is stockpiling forages for winter grazing.

Stockpiling is the practice of saving hay fields and pastures for late fall and winter grazing after the growing season has stopped. In Virginia, many cow/calf producers schedule the last hay cutting or remove cattle from pastures in early to mid-August in order to allow these fields sufficient time for regrowth. Fescue is a grass that is found on many farms throughout the state and is stockpiled for winter grazing. Stockpiled tall fescue maintains forage quality better than other commonly used cool-season grasses. It also produces higher yields of stockpiled forage of superior quality compared to most other cool season grasses.

A 3-year Virginia study showed that stockpiled tall fescue contained 23% more energy and 36% more crude protein compared to average grass hay in Virginia. For example, stockpiled fescue fields that received 40 pounds of nitrogen per acre averaged 13.9% crude protein and 68.1% total digestible nutrients. Although there was a slight increase of .7% crude protein when the nitrogen rate was increased from 0 - 120 pounds per acre, the range was small and likely biologically insignificant.⁽²⁾ The nutritive value range observed for stockpiled tall fescue in this study is similar to observations made on a commercial farm in south-central Virginia over a 5-year period.⁽³⁾ Furthermore, the stockpiled fescue in the 3-year study would meet the nutritional requirements of all classes of beef cattle.⁽⁴⁾ The yield of stockpiled fields is dependent upon rain fall and nitrogen application rates.

The 3-year Virginia study compared nitrogen rates and source effect on the yield of stockpiled fescue. Stockpiled fields that did not receive nitrogen produced ~2,500 pounds of dry matter per acre. Yields increased linearly for each source of nitrogen, however, rates of yield increase varied between nitrogen sources.

Ammonium sulfate, broiler litter and urea are the most common nitrogen (N) sources used to fertilize pastures in Virginia. The 3-year Virginia study determined the increase in yield of pounds of dry matter (DM) for each pound of nitrogen applied from the following products: ammonium sulfate (11.08), broiler litter (9.29), and urea (7.10). Many producers apply 40 -50 pounds of nitrogen per acre to stockpile fescue for winter grazing. Table 1 shows the response rate in pounds of dry matter and grass per acre using an application rate of 50 pounds nitrogen per acre and assuming that a

Table 1

Nitrogen Source	lb. N/ lb. DM	lb. N/acre	lb. DM/ acre	lb. grass/ acre
Ammonium Sulfate	11.08	50	554	2,770
Broiler Litter	9.29	50	465	2,325
Urea	7.10	50	355	1,775

pound of grass is 80% water and 20% dry matter: Clearly rainfall is one of the most important factors influencing pasture yields. It is recommended that nitrogen be applied when there is a high probability of rainfall in the weather forecast to maximize yields.

June 2013 nitrogen prices are listed in Table 2. The broiler litter prices are based on a minimum of 45 pounds of nitrogen per ton.

Due to the volatility of fertilizer prices in recent years, producers should check fertilizer prices in order to determine the most inexpensive source of nitrogen. However, there are several factors besides nitrogen price that producers should consider when selecting the “best” type of nitrogen fertilizer for stockpiling. Additional nutrients may be included in the nitrogen sources which will increase yields. For example, broiler litter contains phosphorus and potash and ammonium sulfate contains sulfur. Urea is most susceptible to volatilization and produced the lowest yields. It is recommended that producers use soil tests to determine the nitrogen source that will maximize yield.

Table 2

Nitrogen Source	\$ /lb. N	lb. N/acre	\$ /acre
Ammonium Sulfate	.77	50	\$38.50
Broiler Litter	.77	50	\$38.50
Urea	.67	50	\$33.50

The following example illustrates carrying capacity for one acre of stockpiled forage that received 50 units of nitrogen from ammonium sulfate:
DM yield = 2,500 lb. (0 lb. N applied) + (50 lb. N X 11.08 lb. DM)
3,054 lb. DM = 2500 lb. + 554 lb.

Assuming that a 1,000 lb. cow consumes 2.5 lb. DM / 100 lb., this cow would consume 25 lb. DM per day.
3,054 lb. DM / 25 lb. DM per day = 122 days

Thus one acre of stockpiled fescue fertilized will provide ~ 120 days of winter grazing for one cow. As previously mentioned, rainfall has a major impact on the amount of forage stockpiled for winter grazing. Therefore many producers will stock pile 1.5 – 2.0 acres / animal in order to have sufficient forage to graze throughout all the winter months. In contrast, producers may elect to feed hay during the winter months.

The following example shows the cost of feeding hay to a 1,000 pound cow that eats 25 lb. DM each day for 120 days. A ton of tall fescue removes the following nutrients from the soil: 39 lb. nitrogen, 19 lb. phosphorous, and 53 lb. potash.⁽⁵⁾ Using June 2013 fertilizer prices, a budget shows that a ton of tall fescue removes ~ \$65 of nutrients from the soil.
2,000 lb. hay (15% moisture) = 1,700 lb. DM or .85 ton DM

Dry matter requirements for one cow for 120 days: 25 lb. DM /day X 120 days = 3,000 lb. DM or 1.5 tons DM
1.5 tons DM / .85 ton DM from one ton hay = 1.76 tons of hay. Assuming that ~15% of the hay is wasted during feeding, each cow requires ~2 tons of hay for a 120 feeding period.

In June 2013 Virginia Tech crop budgets showed that it costs ~\$150 to produce a ton of fescue hay which includes ~\$65 in fertilizer costs. Since every bale of hay that leaves a field is exporting nutrients from that field, the nutrients must be replaced to maintain fertility. Otherwise, nutrient levels will be depleted.

If by Silvopasture...

By: John Fike, Adam Downing, Greg Frey, and Patti Nylander

In the 1950s, Judge Noah S. “Soggy” Sweat made an oft-quoted equivocation about the merits of legalizing whiskey sales in Mississippi. In the speech, the judge noted: “If when you say whiskey you mean the Devil’s brew, the poison scourge, the bloody monster that defiles innocence... then certainly I am against it. But, if when you say whiskey, you mean the oil of conversation, the philosophic wine...that drink the sale of which pours into our treasuries untold millions...then I am for it.” Of course, Judge Sweat was taking no position whatsoever! So what does this straddle about whiskey sales have to do with silvopastures? Maybe nothing, but it makes a nice lead in to the three points we want to make.

First: We need solid terms when describing or defining something so we know what we’re talking about. The term silvopasture is constructed from “silvo” (derived from the Latin “sylvan” which means “of the forest”), and of course “pasture”, one of our favorite topics. So as a basic working definition, silvopasture represents a merger of tree and pasture production systems.

Second: True silvopasture systems involve the purposeful, managed integration of trees, forages, and livestock. With appropriate management, these systems increase the overall output of the land base by improving the use of available resources. Appropriate levels of shade can benefit forage production by reducing heat load on and moisture losses from the forage canopy; and, it reduces animal heat stress.

Third: Silvopasture is **NOT** the casual use of one tree in a pasture; **nor** is it providing livestock access to the back woodlot for shade without any management. Such unsupervised grazing often creates degraded soils, increases erosion, and results in forests void of desirable regeneration - often with poor timber quality.

Silvopasture page 8



Silvopasture is not forest grazing or a single tree in a pasture but an integrated forest/ forage livestock system designed to optimize the function of each system component.

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For those of us who aren't still baling hay, August is that brief span of time between county fairs and the start of a new school year. Fall calving hasn't started yet, and many of us are still a couple of weeks away from preparing our pastures for winter grazing. It's a good time for the 1% of us who produce the nation's food to see what the other 99% are doing. And they've been up to a lot.

While you were out fighting mud and pink-eye and mastitis, your customers have sought Elle Magazine's advice on avoiding "GMO allergies", Jenny McCarthy has become the leading authority on vaccines, and Panera Bread is working to "increase the availability of antibiotic-free meats". Buzzards are circling around the farm bill, National Geographic has aired an episode about "The Secret World of Factory Farming" and synthetic beef was deemed edible. It's easy to convince ourselves that either it doesn't matter, or there's nothing we can do about it. But these carefully orchestrated public health scares do as much of a disservice to our customers as they do to us.

It's not always easy being part of the 1% who are blamed for obesity, super-bugs, climate change, habitat loss and the Gulf dead zone. But it's got to be better than being part of the 99% who are being lied to. Not everyone believes the lies, but fear-mongering is filling a void that was once filled by scientific reason. Sex sells - fear

sells even faster.

And while we feed the hand that so often bites us, we need to remind ourselves that food safety, and to a larger degree public health, begins with us. So should education.

Best Regards,
Patty Jonson
President, VFGC

Grazing Dairy Heifers Increases Profits

By: Peter Callan

Due to the dramatic rise in grain prices over the past six months, dairymen are wondering how they can get the most bang for their buck when they have limited funds for purchased feed inputs. Producers are working closely with their nutritionists to maximize the use of home grown forages in rations to reduce ration costs. Over the past 20 years increasing numbers of dairymen have started to intensively graze pastures to maximize pasture as a source of feed.

Pasture lands are an underutilized and under managed resource on many farms in Virginia. Rotational grazing is a management intensive system that concentrates animals within a relatively small area (paddock) for a short period of time e.g. 12 hours - 4 days for dairy cattle. A pasture may be divided into multiple paddocks. The cattle are then moved to another paddock while the other paddocks are allowed to recover and grow. Animals are moved according to a flexible schedule based on number and weight of animals, the amount of land available, quality of forages in the paddock and forage consumption. ⁽¹⁾ Continuous grazing is use of one pasture.

Stan Pace, Agronomic Crops Agent with the Mississippi State University Extension Service,

explained that "Cows are selective grazers. When put in a selective forage situation, they'll overgraze some spots and undergraze others. Over time, you will have poor quality grass and less total forage production." ⁽²⁾

Forage utilization efficiency is the percentage of forage grazed on a pasture. Pace declared, "Using rotational grazing can increase efficiency up to 75 percent over conventional grazing's 30 percent to 35 percent efficiency. He said moving the cattle every three or four days yields a 50 percent to 60 percent forage utilization efficiency. To increase efficiency to about 75 percent, I'd move them every day. " ⁽²⁾ To make the best use of rationally grazed pastures and optimize animal growth rates, supplementation may be needed.

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For a 120 day feeding period, the cost of stockpiling two acres of fescue using ammonium sulfate or broiler litter is \$93 (\$38.50 fertilizer cost/acre X 2 acres + \$8/acre application cost X 2 acres) compared to feeding two tons hay which has total production costs of \$300. Thus there are savings in feed costs of \$207/cow by feeding stockpiled forages.

Stockpiling eliminates the labor, machinery, repair and other input costs associated with baling and feeding hay during the winter months. Furthermore, the costs of manure hauling and spreading are eliminated by having the cattle harvest the forage and distribute the manure on the stockpiled fields. In an era of softening cattle prices, stockpiling is a simple and cost effective way to reduce winter feed costs.

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Peter Callan is an Extension Agent specializing in farm business management working out of the Culpeper Office.

Dairy Heifers Page 2

Due to a lack of rainfall in the summer months, many pastures may not grow enough forage to meet the animals' dry matter intake levels. Based on forage quality and quantity and desired rates of gain, many producers supplement the grazing heifers with silages, bypass protein, vitamins and minerals, etc. The goal is to achieve 1.75 pounds rate of grain that is needed for dairy heifers to freshen at 24 months and weigh 1,250 pounds. ⁽³⁾ Soil fertility plays a major role in determining the quantities of forage produced on pasture.

A current soil test takes out the guesswork and prevents the producer from under or over-applying lime and fertilizer, either of which will decrease your efficiency

and profitability. Virginia Tech soil test laboratory recommendations are based on research conducted for Virginia soils and climate. The type of grazing system implemented on a farm has major implications regarding pasture fertility.

Missouri researchers estimated that grazing animals recycle 75-85% of forage nutrients consumed. An even distribution of manure throughout a paddock is required for productive plant and animal growth. Intensity of grazing rotations affects the manure coverage in paddocks. In a rotational grazing system there is an even distribution of manure because the animals are forced to consume forage in the paddock before being moved to another paddock. The Missouri researchers calculated that under continuous grazing practices, 27 years would be needed to obtain one manure pile per every square yard within a pasture. Conversely, the pasture was divided into paddocks and a two day rotation was used; then two years would be needed to achieve an even distribution of manure within the paddock. ⁽⁴⁾

In times of surplus forage in a pasture, the hay can be baled and sold or stored for future use. Kentucky researchers have estimated that a ton of grass hay (fescue, orchard grass) removes the following nutrients from the soil: 12 lbs. of phosphate and 50 lbs. of potash. ⁽⁵⁾ If these nutrients are not replaced, soil reserves will be depleted over time. Consequently, there will be a reduction in crop yields. Soil testing determines the amount of fertilizer that needs to be applied to maintain hay yields.

Cooperative extension agents can assist producers in the design of grazing systems for their farms. Numerous grazers have stated that the greatest challenge in implementing a grazing program on their farm is taking the first step which is splitting a pasture in half using temporary fence. Once they see how easy it is to move the cattle from one paddock to another, they never look back. How many times on a dairy farm do the dairy cattle harvest their forage and distribute their manure for free? In an era of high grain, fuel and fertilizer prices, grazing heifers provides producers the opportunity to reduce their operating costs in a simple user friendly management system.

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Jim Gerrish Conducts Advanced Grazing School

Jim Gerrish, nationally renowned grazing specialist, conducted three one-day advanced grazing schools at Upperville, Steeles Tavern and Blackstone, Virginia July 22-25. Approximately 35 of Virginia's top graziers attended the sessions.



Gerrish took the attendees to the next level of grazing by focusing on specific strategies that examined grazing height, water management, grazing times and their impact on forage productivity. According to Gerrish, Virginia graziers can easily increase their productivity two-fold by going from continuous grazing to well managed rotationally stocked pastures where livestock is moved every 3-5 days. Even higher productivity may be achieved if pastures are grazed and rotated on a daily basis.



Jim Gerrish talks about the importance of forage inventories for planned grazing.



Students at the Blackstone location pause for a picture with Jim Gerrish.

At each location the attendees participated in a pasture walk with Gerrish. Activities included pasture analysis that focused on optimum grazing heights and determining amount of forage in the pasture system. Practical applications helped determine animal grazing days per acre and how many acres needed to be allocated to the herd to develop an effective grazing system.

Gerrish also taught management concepts of taking pasture inventories and developing a grazing wedge. According to Gerrish, producers need to take pasture inventories on a regular basis. This will allow producers to better manage their forage by matching forage supply to animal needs. Pasture availability and problems associated by drought can be better managed if we can better predict available forage on-hand.

This workshop is another great example of services provided by the Virginia Forage and Grassland Council to better meet the wide and varied needs of Virginia's forage and livestock producers. To learn more about upcoming educational opportunities visit the VFGC's webpage found at www.vaforges.org. To view pictures from the advanced grazing school visit Virginia Tech's Southern Piedmont AREC's Facebook found at <https://www.facebook.com/pages/Virginia-Tech-Southern-Piedmont-Agricultural-Research-and-Extension-Center/170129166429643> and click on "Photos" then "Albums" and then "Advanced Grazing School-2013".

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Reporting the progress of Virginia's forage industry