A Fresh Look at Native Summer Forages

By: JB Daniel, USDA-NRCS Forage and Grassland Agronomist

The third week of July was busy and productive for the Virginia Forage and Grassland Council. In fact, after the two summer field days and 3 professional trainings on native summer forages, many peoples’ eyes were opened to the true opportunities offered by these underutilized grasses.

Dr. Pat Keyser, invited speaker and Director of the Center for Native Grasslands Management, captured the attention of producers and professionals as he presented research and demonstration results from the past 10 years. http://nativegrasses.utk.edu/index.htm

He set the stage emphasizing that in 5 out of 10 years the Southeastern United States suffers significant heat and drought resulting in forage shortages and expensive hay feeding in the summer for many livestock producers. This combination of extreme heat and dry weather does not mix with cool-season perennial grass mixes that are grown in most of Virginia’s pastures.

“Based on these facts, most livestock producers in the region have a true need for cost effective, productive summer forages. The good news is we have a very viable tool, but most producers know very little about it,” explained Keyser.

The forages Dr. Keyser was talking about include Switchgrass, Big bluestem, Little bluestem, Indiangrass and Eastern gamagrass. Historically these grasses have been promoted as good wildlife habitat, but their value as a nutritious forage source has been overlooked, in part because of concerns about being difficult to establish and manage compared to cool-season forages. Well, Dr. Keyser debunked these myths all across the state during that mid-July tour. For the skeptics in the audience, and there were plenty, he backed up his words with research results.

Myth #1: It takes 2-3 years to get a good stand of native warm season grasses established.

Debunked: “In Tennessee and Kentucky, we have an 80-95% success rate of establishing these grasses in one season.” The failures are usually directly related to either drought or excessive rainfall after planting, leading to unusually heavy weed competition. To be successful, you must have excellent weed control, which begins by killing the existing sod the fall before planting. Early planting can also help ensure successful stands. Technically you can seed these grasses between mid-February and mid-July. Historically, agronomists have waited until the soils are warm and spring weeds can be controlled before planting. This puts you into June or July. Shifting 60 days earlier puts seed in the ground late March to early April. This still gives enough time to for an early spring herbicide application to kill the leftover fescue and winter weeds while also putting seed in the ground in time to benefit from spring rains. This results in late spring germination with a high probability of success. By the second year, you can expect a 2.0-2.5 ton per acre yield which is similar to most well-established fescue hay fields.

Myth #2: Native warm season grasses don’t have the nutritional quality to meet the needs of my livestock compared to what I get from cool-season grasses.

Debunked: Any forage loses nutritional value if it if you let it get too mature before harvesting or grazing with livestock. Many of the producers and some researchers using these forages wait too long before turning livestock into these fields. Instead of waiting until cool-season grasses have played out to graze these grasses, turn the livestock in when the native grass is actively growing in mid-May. They are best grazed rotationally, keeping canopies between about 12 and 30” tall, depending on which species you are grazing. The old rule of thumb, “take half, leave half” certainly applies to these tall-growing species. These are deep rooted perennials and with 1-4 weeks recovery time (depending on time of summer), they are ready to graze again. Dr. Keyser’s research shows average daily gains on the native warm season grasses ranging between 1.5 – 2.5 lbs. per day on weaned steers over a 112-day summer grazing season from late spring through summer. This is far superior to the 0.8 lb. per day gain shown on livestock grazing endophyte infected tall fescue during the same timeframe!

Myth #3: These grasses are hard to manage and are not resilient when grazed.

Debunked: “Native grass can take a beating, but they cannot take a persistent beating and abuse over time. We used to think only the top 10% of producers could manage these grasses, but from what I have seen and experienced myself in the last 10 years, I am convinced that the top 50% of livestock producers can successfully do this over the long term.” Start grazing when the grasses are still vegetative, don’t graze below 12 inches, and rotate through them to graze multiple times per summer once it has regrown. Don’t leave the whole herd on this warm-season grass continuously as a sacrifice lot, no forage will sustain under those conditions.

Myth #4: You can’t graze it between April 15 and August 15 if you want it to serve as productive habitat for ground nesting birds like the Northern Bobwhite Quail.

Debunked: Even by grazing these native grasses during the historically protected “nesting season” we see very little impact to the

dr. pat keyser explains that native summer forages offer tremendous production potential when you need it most.

For ground nesting birds. The tall structure of these bunch grasses usually results in 12-18” stubble height after grazing which is more than enough cover to provide concealment and protection for many of the ground-nesting species, even the Northern Bobwhite quail. If left ungrazed to preserve just for wildlife, we often see the stands get too thick for the birds to maneuver through resulting in an overall negative effect on wildlife. Keyser emphasized, “Grazing animals and ground nesting birds work together...quail are adapted to live in a world of herbivores.”

The statewide tour visited farms in Charlotte, Madison and Augusta counties where these grasses had been planted and grazed between 10 and 25 years. The grass stands were healthy, the livestock were in great condition and the producers were happy. The host farmer testimonies to those in attendance and the ability to see the cattle grazing these forages in their prime, truly resonated with the crowd. Dr. Keyser’s visit across Virginia sparked interest with producers to take a fresh look at these native summer forages for production first and wildlife benefits second. Producers left these pasture walks excited about the upcoming USDA program opportunities starting this fall for establishing native grasses on working lands. (See article titled, Keeping Working Lands Working.)

Dr. Pat Keyser explains that native summer forages offer tremendous production potential when you need it most...

Indiangrass (Sorghastrum nutans): Animal performance on this species is also exceptional. This species can tolerate a wide range of soil conditions and is easy to establish, perhaps the reason why indiangrass can often be spotted along right-of-ways.

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Internal Parasites

By: Carl C. Stafford, Senior Extension Agent 
Culpeper County, VCE

Internal parasites better known as "worms" are a production efficiency issue with cattle and other grazing livestock. Cattle producers address this performance problem by using de-wormers known as anthelmintics. There are three chemical classes approved for use in cattle and several non-chemical management methods help reduce the impact of worms on cattle.

An issue with chemical controls is development of pest resistance. You understand that not every pest is killed when treated and those remaining reproduce, concentrating resistance. This can lead to failure of the control used. In the case of anthelmintics, new information is out from a federal study informing us of a possible solution to resistance – the refuge. As is the case in management recommended for genetically modified corn, using a refuge is a way to avoid exposing the entire pest population to the control. A refuge will allow untreated pests to be available to cross breed with the survivors of the control. This results in a dilution of resistance in a given pest population and slows down the buildup of trait(s) leading to full resistance.

Cattle studies done by Virginia Tech have recommended for at least 20 years that adult cows not be treated for internal parasites. They found adult cows left untreated performed just as well as treated cows. Scientists concluded this was development of age related immunity. In light of this knowledge, it is puzzling to read of long acting de-wormers recommended for the entire herd. If you want this new product to work for years to come, reserve it for the young stock and save money on unnecessary treatments to adult cows. Leaving cows untreated also lets them serve as the refuge. New work at the Virginia Maryland College of Veterinary Medicine shows no benefit to adult cows treated with this long acting product.

De-wormers can also be used to treat cattle for lice as some product labels support this use. Considering the risk of resistance, it seems we could save our de-wormers for the internal parasites and use other lice labeled treatments when needed. Another option is to select for worm tolerance.

Small ruminant breeders have been selecting for worm tolerance in their flocks for years as their de-wormers have stopped working in most cases. They choose females that tolerate parasites and keep their daughters as replacements. They also check for worm load and only treat those showing signs of needing the treatment. Historically small ruminants have required more frequent de-worming and resistance builds faster because of this.

There are pasture management techniques that help with worm problems. Keeping pasture taller and rotating pastures is another approach to suppressing worm impact on grazing livestock. Nematodes need to stay close to the ground or dehydrate for lack of moisture. Grazing tall grass limits exposure to short grass where the worms live. Making hay from our pastures will also help to remove worms for the short term. A final point would be about tall growing warm season grasses. It is not likely that worms can survive far from the soil; it is just too dry up there where warm season grasses grow. Graze these with confidence and gain access to quality forage when our pastures are least productive.

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Check out vaforages.org for upcoming fall tours, field days, and fall grazing school information.
you can imagine, this approach greatly limited adoption because most farmers could not set aside their productive land for wildlife.

Research and Demonstration:
Dr. Pat Keyser is one of several leading researchers who have studied grazing livestock on these productive summer grasses and documented the fact that this practice does not disturb ground nesting birds. The Director of the Center for Native Grasslands Management spent the last 11 years studying the management of livestock on these grasses.

"My research shows it is a win-win for the livestock and the wildlife," says Keyser. "These grasses provide tremendous forage production in the summer when it is really needed. Even while cattle graze these grasses in the late spring and summer, they also provide a positive benefit to ground nesting species."

Northern Bobwhite in Working Grasslands will be available starting October 1, 2017. Don't wait, call now or visit your local USDA Service Center to ask your district conservationist about participating in this new program. Then, request to meet with your Private Lands Biologist to begin developing your plan to establish native summer forages on your farm this year!

The Natural Resources Conservation Service and Virginia Department of Game and Inland Fisheries are committed to working together to make this effort a success for the farmers and the wildlife on farms throughout Virginia." — JB Daniel, USDA-NRCS Forage and Grassland Agronomist

"We are unified in this effort to work with farmers across the state to accomplish their production goals first while greatly expanding wild-life habitat and keeping farmland productive and working." — Marc Puckett, VA Dept. of Game and Inland Fisheries

Experiences In Fescue Pasture Renovation

By: Gabriel Pent, Ruminant Livestock Systems Specialist, Virginia Tech, Southern Piedmont Agricultural Research and Extension Center

Converting pastures from toxic endophyte-infected tall fescue to novel endophyte-infected tall fescue can be a difficult and complex task, given the hardiness of this grass-fungal association and the pervasiveness of toxic endophyte-infected seed.

Several approaches are recommended for killing the existing sward and eliminating any residual seeds. While one approach calls for a specific two-spray schedule – once in late summer and again in early fall – the success of this approach is largely dependent on weather and the timing of the herbicide application.

Another approach for fall establishment involves spraying in the early summer, planting a summer annual smother crop, and spraying again prior to planting the new fescue seed. The first spray elimi-nates most of the actively growing tillers, while the smother crop weakens any missed tillers or newly emerged seedlings before they are wiped out with the final spray.

The time investment required to replace toxic en-dophyte-infected tall fescue with novel endophyte-infected tall fescue can be intimidating. This may be a factor in the low adoption rates of the novel endo-phyte technologies. But a recent pasture walk in Southside Virginia revealed one benefit to the intensive spray-smother-spray approach, as well as an important lesson.

The host farmer of this demonstration project be-gan the conversion process by spraying glyphosate on 20 acres in early June. Several varieties of pearl millet and sorghum-sudangrass hybrids were plant-ed a few days after spraying. The fields were also fertilized to soil test recommendations. Despite the farmer’s best attempts to follow the textbook, the lack of rain for the entire month following planting had him worried that the dry heat, not the crop, would smother any residual fescue.

Unlike nearby cool-season grasses, the warm-season forages rebounded quickly when the first rain arrived over 35 days after planting. Within only 20 days after that first rain, these smother crop varieties yielded on average over 10,000 pounds of dry mat-ter per acre.

Some growing replacement heifers were allocat-ed a small portion of the forage, now at the boot stage, after the nitrate levels subsided following the drought (Figure 1). Most of the field will be cut for hay, although this large amount of high-quality feed could also be grazed through the summer and early fall which would allow for the stockpiling of toxic tall fescue in unrenovated pastures. The accumulated fescue forage could then be utilized when alkaloid concentrations have begun to recede in the late winter months.

One lesson learned from this pasture walk was the importance of fertility in achieving not only a high yielding forage crop, but also in creating the appro-priate conditions for smothering, but not inhibiting, tall fescue seedling growth.

Seven fertility treatments, including a control, were put down with four replications of each prior to seed-ing the pearl millet. Applying the recommended rate of N-P-K according to the soil test (80 pounds of each per acre) resulted in nearly twice the dry matter yield as compared to applying nothing (Figure 2). The addition of nitrogen resulted in the largest

A New Approach to an Old Problem:
Recognizing the need to offer options that complement the farmer's production goals, USDA is now unveiling Northern Bobwhite in Working Grasslands, a new program to get more farmland established in quail habitat. This pro-gram puts the farmer first knowing that, once the grasses are established as part of pasture sys-tems, the benefits to ground nesting birds like the Northern Bobwhite Quail will naturally come.

Figure 1: A dense, homogeneous sward of pearl millet allows for high levels of intake at every feeding station selected by this heifer, while also throttling the growth of newly emerged tall fescue seedlings.

Figure 2: Pearl millet yield under various fer-tilizer rates demonstrates the benefits of nitrogen application on forage production.
By: John Fike, Assoc Professor in the Crop Soil Environmental Science at Virginia Tech

At VFGC’s 2012 Winter Conferences, a speaker stirred up some controversy over the topic of weed management, particularly given that she was advocating training cows to eat weeds. That idea – that cows eat weeds – probably was less of an issue than some other controversial (or even factually incorrect) statements the speaker made in her efforts to arouse the audience. Still, I have wondered whether the message got lost in all the noise and agitation that ensued. I now know that for at least one producer, the message got through.

Buck Holsinger produces Galloway cattle on the family farm in the middle of the Shenandoah Valley. Although the farm has been in the family for about 10 generations, Holsinger is no slave to tradition. He has implemented a number of innovations, testing new ideas to see what will work for his operation. After listening to the speaker at the 2012 conference Holsinger thought the weed eating idea seemed pretty good, but he wasn’t sure how to implement it.

One of the principles for teaching livestock to eat new things is to provide novel foods in combination with other desirable foods over several days so that livestock develop a positive association with the novel food. However, in addition to farming Holsinger works for IBM and flies planes for the Air National Guard. Thus, adding “weed intake training” to his job list didn’t seem practical – but having a family farm offered him the opportunity to solve this problem.

The solution came to him one day while watching his youngsters offer calves alfalfa stems through a fence. Seeing that, Holsinger hit on the idea of having the children offer both alfalfa and thistle together.

This spring, Holsinger sent me photos of his children’s training efforts, along with some explanation. For background, Holsinger had piled some fill dirt around a barn and it contained some thistle seed.

After putting the cattle around the barn to graze, he observed his cattle and captured these images of his cattle working over the thistles (Figs 1 and 2) and the results of their handiwork (Fig 3). Said Holsinger, “I believe that the young thistles are a great source of protein and find that teaching the cattle to graze mob-style they are much less selective when given the right amount of time and stocking density.”

Buck’s experience confirms my maxim that “Cows are not great land managers, but they can be great land management tools.” Our job as land managers is to know how to work with and use cattle (and other species) to achieve both our production and ecosystem goals. Taking this approach to thistle control may not be for everyone, but it shows it can be done. For Holsinger, having cows that eat thistles is a win-win in terms of reducing the weed management needs while providing a nutritious feed resource.
Greetings Graziers,

I hope your part of Virginia is deep green. Here 30 minutes north of Charlottesville we have had timely rains that have kept the crops growing. On one of my pasture walks lately, I noticed the fescue is starting to wake up and the red clover is exploding. It looks like the lespedeza is reseeding well. A lot of folks don’t like it but it sure does fill in the forage summer slump. Thanks to Dr. Teutsch for advising us to seed it with our pasture mix.

At our last broad meeting, we had a great discussion regarding the winter conferences. I think everyone will find these meetings to be very informative and profitable. See the article from J. B. Daniel regarding the details.

Until next time, think Virginia forages.

Hoping for a clover year,
 Alan Spivey
 President, VFGC

Switchgrass (Panicum virgatum): Livestock will readily graze this highly productive species until the seedhead emerges. Because switchgrass generally matures faster than the other warm season native grasses, it is not recommended to mix switchgrass with other species in the same pasture.

Big bluestem (Andropogon gerardii): This species is preferred by cattle, and steers grazing big bluestem in the summer have been shown to gain 2.0 – 2.5 lb/day.

For those of you interested in cows eating weeds, you may want to look at the following video: https://www.youtube.com/watch?v=dANLhHei19A or this recent article in Beef Magazine: http://www.beefmagazine.com/feed/4-tips-train-your-cattle-eat-weeds

If you have livestock-eating-weeds stories of your own (or your neighbors), it would be great if you would please share them with me. Send to jfike@vt.edu with “Cows eat weeds” in the subject line.

To JOIN the Virginia Forage and Grassland Council on-line at
http://www.vaforages.org
Contact Margaret Kenny at vfgcforages@gmail.com
By: JB Daniel, USDA-NRCS Forage and Grassland Agronomist

Virginia’s estimated 8.2 million acres of farmland not only provide food and fiber for our citizens but also support a robust wildlife population enjoyed by thousands of people every year. Almost three million of these acres are grasslands managed as pasture for grazing livestock, and are the backbone of our livestock industry.

Nearly all these grasslands are established in cool season perennial forages like tall fescue, bluegrass, and clovers, which form a thick sod that is typically very good for livestock for about six months a year. These grasses don’t provide much forage when the temperatures rise and aren’t suitable as habitat for ground nesting birds like the Northern Bobwhite Quail.

A Farmers Point of View

“Getting through a hot, dry summer with enough fresh forage is one of the biggest challenges many Virginia livestock producers face each year,” says Madison County cattle producer Carl Stafford.

He says production of cool season perennial grasses and legumes drops significantly as the weather gets hotter. If we have a week of 90+ degrees and no rainfall, these cool season plants quickly go dormant.

“To maintain a more constant feed supply during the summer, I use switchgrass as my ace in the hole,” Stafford adds. “This warm season perennial thrives in hot weather and is very productive in June, July, and August when my cool season pastures are not producing enough to meet the needs of the livestock.”

Keeping Your Working Lands Working

“By establishing these warm season perennial forages in 25 to 30 percent of the pasture system, producers like Mr. Stafford can have a dependable source of fresh forage and greatly reduce the risk of a summer feed shortage.”

A Wildlife Perspective:

“During the last 50 years, the quail population in Virginia has declined over 80 percent,” says Marc Puckett, a biologist for the Virginia Department of Game and Inland Fisheries (VDGIF). “Experts believe that the greatest detriment to this species is the decline in suitable habitat for nesting and raising their young.”

In the past, VDGIF and USDA offered programs that encouraged farmers to help support larger quail populations by establishing habitat with native warm season grasses. Unfortunately, those old programs took the land out of production and the farmers were not allowed to harvest the forage during the nesting season when it was considered best for livestock. As