

PHOTO: DEBORAH STAROBIN ARMSTRONG



Mountains-To-Bay Grazing Alliance

Newsletter, January 2021



Seeking Common Purpose

by John Fike, Virginia Cooperative Extension

Helping producers understand the opportunities with, and challenges of, converting from endophyte-infected to novel-endophyte fescue has been a significant part of pasture management extension efforts in Virginia in the past few years.

Converting some portion of pasture to novel fescue to strategically reduce toxin intake, increase animal performance, and improve environmental outcomes would make good financial sense for many producers. However, as a friend told me of a fortune from a fortune cookie he'd once gotten, "Everyone likes progress, but no one likes to change."

Besides, changing from what we know to something seemingly unknown can be risky or even scary. It's in this context that I have been reflecting on the state of our (dis)union of late.

On a warm August evening in central Virginia, in 2019, a group of about 80 producers visited a commercial beef operation that was in the process of renovating some pastures from toxic to novel fescue.

The producers on this particular farm were using the spray-smother-spray renovation technique. This common renovation process involves killing the toxic field, over-seeding with a warm-season annual such as millet or sudex, and then seeding novel fescue into the warm-season stubble in late summer.

While the questions and conversation surrounding fescue conversion started in a typical fashion, things took a decided turn when someone asked whether, and how, the process might be done without herbicides.

Many in the audience, steeped in using herbicides for pasture management, appeared jarred by this seemingly innocuous question. Some grumbling began to rise and soon there seemed to be a partisan alignment around the use or avoidance of herbicides for pasture management.

As I think about the polarization we have seen in our country, I have often reflected on that sultry evening pasture walk.

Must we live as "spray" and "don't spray" (or "red" and "blue") partisans? Could it be that "pasture patriots" of all persuasions exist? Wouldn't we be in a better place as individuals, communities, and country if we started our consideration of and interaction with others from the ideas and understanding we hold in common?

For example, couldn't we agree about what constitutes healthy, productive pastures and animals and work back from that as our goal? Wouldn't that be more productive than spending so much energy excoriating others about their approach that the outcome is that we seldom get there?

Surely there will be differences of opinion about this or that weed or forage species and their best management, but on the whole, we should have reasonable agreement about what constitutes good, productive pastures and healthy animals. And, as people of good will, we should be able to accept that our neighbors may have different ideas about how to arrive at those agreed-upon endpoints.

In a much broader context, the same can be said for our country. Clearly our politics

have become much more intense, fraught, and divisive than that group's back-and-forth about how to convert fescue pasture.

Given the current state of our political passions, some readers certainly must be happy while others must be dismayed by the election results and the prospects of a new administration—and we have some decisions to make about how we choose to respond.

When facing such a challenge, it is helpful to step back and look at things to get a broader perspective and a clearer understanding of purpose. The framers of the Constitution made their purpose clear:

We the People of the United States, in Order to form a more perfect Union, establish Justice, insure domestic Tranquility, provide for the common defence, promote the general Welfare, and secure the Blessings of Liberty to ourselves and our Posterity, do ordain and establish this Constitution for the United States of America.

We haven't been perfect, but from its founding this country has a long history of patriots putting aside partisan disagreements to accomplish the greater goods of Justice, Tranquility, common defense, general Welfare, and the Blessings of Liberty.

We can continue to view others of different persuasions through a lens of cemented partisanship which blinds us from seeing our shared humanity, shared citizenship, and shared responsibility to future generations. Or we can search for points of agreement about shared ideas and values and seek opportunities to build a better country and a better world together.

Grazing Cover Crops for Profit and Soil Health

by Divya Pant, M.S., student in Agronomy and Sjoerd W. Duiker, Soil Management Specialist at Penn State University

The history of cover crops goes back to the ancient Romans and has long been standing as a management practice to protect soil health and improve soil fertility without using chemical fertilizer.

Cover crops are grown during fallow periods in crop rotations, in the interval between commercial crops. Their primary purpose is for soil improvement and protection. Cover crops are considered essential to improve the sustainability of our farming practices.

In cropping systems with corn silage, cover crops are used to protect soil from erosion, provide food for beneficial soil organisms, alleviate compaction following silage harvest, hold nutrients in fall, winter, and spring, manage moisture, and supplement weed control. Cover crops can also be used after small grain harvest to improve soil health.

Unfortunately, the returns of cover crops are often long-term while the costs are immediate. If there would be an immediate economic return to cover crops, farmers would have a greater motivation to use them.

Cover crops can be harvested for silage and fed to livestock, but this comes with the cost to mow, rake, bale, store, and feed the forage. An alternative method of getting economic return from cover crops is to graze them. Grazing can be more profitable than making silage—the costs per ton of dry matter is half or less. But there are questions about this practice.

For example, will soil compaction be a problem? And what will be the effects on soil health if part of the cover crop is consumed by animals? On the other hand, perhaps the animals can also benefit soil health by the deposition of manure and urine and other unknown factors?

Research carried out by Penn State, with support from Capital RC&D, USDA-NRCS, and the National Fish and Wildlife Foundation, will help answer these questions. In this project on four farms in south central Pennsylvania, the soil health and economic aspects of grazing cover crops are investigated as farmers install fencing and watering systems while learning about management intensive grazing.



PHOTO: SJOERD DUIKER

We compare the soil's physical and biological properties under grazed and ungrazed cover crops after corn silage and after small grain harvest, and also compare the soil properties with double crop soybean after small grains.

The four farms implemented management intensive grazing of cover crops with frequent, mostly daily, rotation, and with appropriate stocking density, which was done in a continuous no-till system.

Combining management intensive grazing and no-tillage with grazing has many benefits.

When a cover crop is grazed for a day and then left to rest for a period until it is grazed again, the cover crop is able to regrow better, giving higher production.

By monitoring soil conditions, the threat of soil compaction can be limited by moving the animals more frequently or by taking the animals off the land if conditions are very wet.

Permanent no-till soil has been shown to be more resistant to compaction because of high

surface organic matter content, a firm soil matrix that limits 'pugging' (sinking of animal feet into the soil), and high biological activity.

In our research we recorded 1,273-2,378 pounds per acre grazed dry matter yield of cover crop per grazing event in the spring in the cover crop planted after corn silage harvest (see Table 1).

The farmer at Franklin 1 was able to graze the cover crop twice in the spring which provided 3,800 pounds of forage dry matter to the livestock before the cover crop was terminated for the next economic crop.

If we consider an average cost of hay per ton of \$250 per ton dry matter, one grazing generated \$475 from grazing cover crops twice to an average of \$230 per acre from a single grazing after corn silage harvest. The table for fall forage yield is given below.

Of course, this does not take into account the cost of grazing but gives just an idea of potential return of grazing of cover crops. (story continues on next page)

Table 1: Grazed yield of cover crops planted after corn silage harvest at three south central Pennsylvania farms. Dry matter yield from samples collected in Spring 2020.			
Farm	Animal Description	Cover Crop Grazed	Total forage DM consumed (pounds/acre)
Franklin 1 (first grazing)	16 steers/650 pounds	Triticale	1,880
Franklin 1 (second grazing)	16 steers/650 pounds	Triticale	2,000
Franklin 2	18 cows/1,000 pounds 4 heifers/600 pounds 9 calves/600 pounds	Wheat	1,273
Adams 2	40 animals/570 pounds	Annual ryegrass/ crimson clover	2,318

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The cover crop after small grain harvest provided 1,572-1,883 pounds per acre dry matter to the livestock per grazing in the fall.

In this case it is much more doable to graze the cover crops multiple times. If we add economic value to it, farmers can generate between \$217-\$435 per acre from grazing cover crops once or twice respectively after small grain harvest. Table 2 shows the forage yield for fall cover crop grazing.

All the farmers left more than 50% of cover crop residue after each grazing event for soil protection and feeding soil biology. Except in two out of nine grazing events, bulk density was not significantly increased following cover crop grazing, showing that the threat of soil compaction is limited.

Additionally, for those two occasions where bulk density did increase due to grazing, 2-3 weeks after grazing the bulk density was reduced to normal, suggesting a biological mechanism that restored the porosity.

One measure of soil biological activity we used was the 'CO₂ - burst', where dry soil is moistened and the carbon dioxide emitted in a 96-hour period is measured as an indication of microbial activity.

Either no significant difference or increased CO₂ burst was recorded a few weeks after the grazing event compared with no grazing of cover crops, suggesting increased microbial activity that could be from the herbivory action, addition of manure or urine, or decomposition of trampled cover crop residue.

Water infiltration following grazing was also measured using a SATURO infiltrometer using a 5.68-inch diameter infiltration ring installed in the field.

The result showed a numerical, but not statistically significant, decrease in infiltration rate immediately after grazing and a consistent improvement in infiltration rate 2-3 weeks after grazing.

We also measured aggregate stability, a measure of soil structural stability against disintegration due to water.

The results for aggregate stability were mixed: In spring 2020, aggregate stability improved when measured a few weeks after cover crops

Farm	Animal Description	Cover Crop Grazed	Total forage DM consumed (pounds/acre)
Franklin 1 Fall 2019	4 heifers/800 pounds 10 heifers/300 pounds	Ray's Crazy Summer Mix	1,883
Adams 1 Fall 2020 (first grazing)	24 cows/1,200 pounds 24 calves/80-150 pounds	Millet	1,572
Adams 1 Fall 2020 (second grazing)	24 cows/1,200 pounds 24 calves/50-150 pounds	Millet	1,770
Franklin 1 Fall 2020	16 cattle/800-900 pounds	Crazy Ray Mix	1,734

were grazed in comparison to ungrazed cover crops. However, in fall 2020 the ungrazed cover crops had higher aggregate stability than the grazed cover crops.

When comparing grazed cover crops and double crop soybeans we recorded no significant differences in bulk density, soil respiration, and water infiltration but aggregate stability was found to be higher in grazed cover crops a few weeks after grazing.

So far, the research suggests proper management of cover crops and livestock grazing can create a win-win situation for the farmers without significant detrimental effect to the soil.

This is especially interesting after corn silage harvest because the cost of cover crop establishment can be recuperated entirely and profit can be generated.

When comparing double cropped soybeans with grazed cover crops after small grain harvest, this can improve profit where the soybeans do poorly.

For example, there was entire soybean crop failure on one of our farms due to drought on a shaly soil that doesn't hold water well, but the farmer was still able to get one grazing out of his cover crop.

On another farm, soybeans yielded better and in that case, can generate more revenue than grazing. There were, however, indications that soil health improved under the grazed cover crops compared with double cropped soybeans because aggregate stability was higher.

So far, the project as a whole witnessed great enthusiasm among participating farmers as

well as interest from many other farmers and industry and agency personnel interested in cover crops to heal the land.

Grazing cover crops made this BMP more profitable while farmers obtained a sense of satisfaction that they were doing the right thing by taking care of their soil.

One of the farmers summarized well what we are learning: "Cover crop grazing with livestock is like adopting a process that replicates the natural cycle and moves in harmony with it rather than against it."

This work was the result of a collaboration between the farmers, Capital RC&D, Penn State, and USDA-NRCS with funding from the National Fish and Wildlife Foundation. This work is also supported by the USDA National Institute of Food and Agriculture, Hatch project PEN04600 accession #1009362.



PHOTO: CBF STAFF

Nothing Good Happens During Hay Storage

by Mike Rankin, Hay and Forage Grower Managing Editor
(previously published in Hay & Forage Grower, December 29, 2020)

Millions of tons of hay now rest in storage. The quality of this hay will range from the near equivalent of cordwood to leafy rocket fuel.

What we know for sure is that forage quality during storage never improves and can decline substantially, depending on the initial baling moisture and storage conditions.

Although it's always a good idea to test forage as it goes into storage, it's perhaps an even better strategy to test hay as it comes out of storage as well. The former offers an indication of what is available in inventory, and the latter allows you to know precisely what is being fed or sold. Don't expect the in and out forage tests to be the same.

Just how much forage quality will change from pre- to post-storage largely depends on the moisture content at baling and if the hay is stored indoors or outdoors. Further, if it is outdoors, has some effort been made to protect it from the weather elements?

Across the country, weather conditions and bale types vary dramatically. Let's begin in the arid West where large square bales are often baled at moisture levels at 12% or lower. It's not uncommon for bales to be stored outdoors in stacks.

According to Glenn Shewmaker, former extension forage specialist at the University of Idaho, even this dry western hay is still subject to minor heating and dry matter

losses in the range of 5% are common over a six-month storage period.

When hay is either baled at higher moistures or wetted during storage, forage quality losses from respiration and heating begin to mount. Respiration results in lower forage quality by reducing the amount of non-fiber carbohydrates (sugars and starch). This raises the percentage of fiber fractions and may actually cause crude protein levels to rise. Excessive heating causes usable protein to decline as amino acids and sugars bind to form insoluble nitrogen compounds. This is often referred to as caramelized forage, which offers no feeding value.

Even with hay baled at a moisture level of 8% and tarped in stacks, Shewmaker has documented forage quality losses during storage of up to 5.3 percentage unit increases in acid detergent fiber (ADF). That same stack lost about 10 points in relative forage quality (RFQ).

For uncovered stacks, Shewmaker notes that, once wetted, a bale does not easily shed water. The outer two to three inches of the bale may increase in moisture by as much as 120%. A one-inch rainfall adds about 20 gallons of water to a four-foot by eight-foot bale surface.

The wetted bale interface deepens with each subsequent precipitation event, and this causes dry matter and forage quality losses to far exceed normal and expected levels.

Frequent precipitation is more damaging than the same amount of precipitation coming all at once.

Finally, Shewmaker cautions about dry hay touching damp soil or concrete surfaces. Dry hay easily wicks moisture and the bottom bales can account for up to 50% of the total dry loss in storage.

Whatever weather hay-storing challenges exist in the West, they can be multiplied by a factor of 10 for the Midwest and East, where hay is generally baled wetter, experiences more precipitation events during storage, and generally exists in more humid conditions.

In the eastern United States, large and small square bales are rarely seen stacked outdoors, covered or not. The same cannot be said for large round bales, and this is where double-digit dry matter and forage quality losses occur for all of the same reasons they do in the West.

Although barn storage is often a worthwhile economic investment, the popularity of outdoor storage can't be ignored. Extensive research has been done to determine how outdoor storage dry matter and forage quality losses can be minimized simply by choosing a well-drained location and storing bales in the proper orientation.

As a hay industry, we can do a better job of preserving what is harvested. Let's make that a goal of 2021.



PHOTO: HAY & FORAGE GROWER

Benefits and Challenges of Winter Grazing

by Kathy Voth (reprinted courtesy of On Pasture)

This story, originally published in January of 2017, comes from Civil Eats, a daily news source for critical thought about the American food system. In working on this story, reporter Caroline Abels contacted On Pasture to find out more about winter grazing and interviewed two On Pasture authors, Troy Bishopp and Jim Gerrish.

After an early season snowstorm in November 2014, Troy Bishopp had an epiphany that changed the way he approaches tending cattle.

The longtime grass farmer and grazing advocate, who had recently launched a winter grazing experiment on his 100 acres in central New York, watched as the 60 dairy heifers he was contract grazing burrowed their faces into the nearly five inches of snow and tunneled down to chomp on the tall grasses sleeping below.

Witnessing the cows employ techniques once used by wild ruminants such as bison, elk, antelope, and bighorn sheep on the Great Plains and in the Rocky Mountain West, Bishopp realized his hypothesis was correct: he could indeed feed cattle for part of the winter without using hay.

“Over the last three or four years, I can safely say it’s become a habit,” Bishopp says—to graze cattle into November, December, and even January on grass grown out and left untouched (or stockpiled) during the summer and early fall.

Most years, thanks to stockpiling, Bishopp adds about two months to his grazing season, which usually ends in mid-October when grasses begin to go dormant. After winter grazing ends, he feeds his cattle hay.

In a food system in which animal confinement is the norm, stockpile grazing is still a novel concept. Most industrial-scale farmers never let their ruminant animals—cows, sheep, and goats—onto pasture at all, let alone winter pasture. Pasture-based farmers, too, tend to feed their ruminants hay in barns in the winter, when there is no grass growth.

But now, an increasing number of livestock farmers and ranchers in many parts of the country are attempting to extend their



PHOTO: TROY BISHOPP

grazing seasons into winter, according to Jim Gerrish, the Idaho grazing consultant who helped spark interest in winter grazing with his 2010 book *Kick the Hay Habit*.

Proponents of winter grazing see it as a way to take advantage of ruminants’ natural proclivities and cut down on the resources required to raise animals through the winter.

The practice originated back in the 1950s and 1960s, when a handful of prominent universities began researching it, Gerrish says. Because rural populations were in decline and labor was becoming scarce, livestock farmers were eager to limit the amount of physical work required to make hay.

The introduction of the cool season perennial grass tall fescue in the 1930s, and its widespread use in agriculture by the 1950s, made winter grazing even more attractive, as tall fescue is believed to be among the best grasses for stockpiling.

By the late 1960s and into the 1970s, however, cheap fuel and innovations in hay-making machinery were beginning to swing the momentum away from grazing-based agriculture to harvested forage, Gerrish says. “Today,” he says, “we have high-priced fuel and equipment and no labor, so the pendulum

is swinging back to, ‘Let’s let the cows harvest it themselves.’”

Benefits of Winter Grazing

Winter graziers list a number of benefits to the practice of stockpiling—saving money not least among them.

Hay is a costly input for livestock farmers who buy other people’s bales, and if they make hay themselves, maintaining and fueling balers, mowers, and other machinery can be expensive, too (not to mention time intensive). As a contract grazier, Bishopp figures that over 10 days, he makes \$720 if he grazes versus \$360 if he feeds hay.

Profit considerations motivated Gabe Brown, whose ranch is located just outside Bismarck, North Dakota, to begin experimenting with winter grazing in 2006. “Any time you’re able to have your animals forage for themselves, you’re saving money,” he says. “It’s amazing what it does for our bottom line.”

Brown estimates that he saves \$1 per cow per day when he winter grazes, which is significant given that he grazes about 1,000 head of grass-fed/grass-finished cattle.

He occasionally provides hay during significant weather events, but generally (story continues on next page)

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feeds his cow herd less than 10 percent of the hay he used to. His yearlings, and any animals that will soon go for slaughter, are fed about 40 percent of the hay they used to receive before.

Brown also likes the idea of lowering his ranch's carbon footprint by not using tractors to make hay for his cattle and his 250 sheep, all of which graze across 5,200 acres. In the past, he would use more than 1,250 gallons of diesel fuel each winter to feed hay to his animals. Even though he now has more animals than in the past, he uses less than 200 gallons each winter.

Brown has also noticed that his herd is healthier since he started moving the animals once or twice a week between winter paddocks and he has not seen any decrease in reproductive efficiency.

"I often tell people, these animals didn't evolve in confinement; they evolved out grazing and doing what instinctually comes to them," Brown says. "They'd prefer to do that."

Winter graziers report that the practice also saves them time and effort. It's a lot easier to move temporary fencing (and thus, animals) than to fire up a diesel tractor in the dead of winter and push hay into a barn. Farmers also don't have to muck out their barns come spring if they've kept their animals outside all winter.

Extra Vigilance and Outdoor Labor

Despite the benefits, winter grazing presents a unique set of challenges. For one, geography can affect the success of stockpiling. The practice does not work well in places where rain or lack of frozen ground creates too much mud, causing animals to compact the soil through their trampling, or where extreme wind chills can threaten animals.

Additionally, if snow is very wet, and therefore heavy, or if there's a coating of ice on the top, it can be challenging for animals to reach the grass without expending an inordinate amount of energy—and therefore requiring more feed.

In such cases, or when excessive mud prevents a stockpiled field from being grazed, a farmer might temporarily feed hay.

(Dairy cows, which have less fat on them to manage cold conditions, need more watchful management, according to Bishopp, and may need to be taken indoors earlier in the winter than beef cattle.)

The farmers and ranchers interviewed for this story stressed that humane treatment of their cattle includes not subjecting them to excessive cold and monitoring their body condition during winter grazing. "If we have an ice storm, we'll do the humane thing and not make cattle chew through ice," Brown says.

Even so, the amount of snowfall isn't a limiting factor for some herds. "I've visited with ranchers in Canada who claim their beef cows will graze even in four feet of snow," Gerrish says, though he notes that most ranch cattle in the American West only have the experience and ability to handle about two feet of snow.

In addition to staying attuned to their animals' welfare, winter graziers must pay attention to environmental factors such as weather and pasture condition, and adjust their management as needed.

To prevent animals from trampling the ground—and injuring plants and compacting unfrozen soil in the process—farmers must move animals between temporary paddocks in the winter, anywhere from daily to once a week, depending on the weather.

They also must have a summer grazing plan that keeps ruminant animals off tracts reserved for winter pasture—and enough acreage to do this. Finally, they must manage their winter forage to ensure high quality spring regrowth.

There is some research that indicates winter grazing can harm spring pasture, but Gerrish says the key to pasture health is "residual management"—making sure you move ruminants before they chew down the grass completely—and that you regularly rotate the pastures used for winter grazing. Bishopp says his winter pastures tend to come back lusher and earlier than his other pastures.

Bishopp's Winter Grazing Experiment

Bishopp, who chronicled his 2014 winter grazing experiment—including his late

November epiphany—says winter grazing in the Northeast is more challenging than in the drier West, because winter rainstorms and frequent freezing and thawing affect pasture nutrient levels, soil health, and animal access to grass.

"I'm stressed," he admitted at one point in his write-up, "because I'm not in complete control, which is tough for me. You can see how decision-making needs to be flexible and why you need a few mentors or consultants to help you mull over these decisions and keep you from melting down."

But all his planning in 2014 paid off: he grazed his neighbor's dairy cows until January 1, two and a half months after the end of the traditional Northeast grazing season.

During that time, he provided the cows with a fresh acre or two a day, on fields of mostly dormant orchard grass that had grown 10-16 inches tall (with some clovers and forbs in the understory). The following winter, he grazed cows until December 12.

Bishopp says he doesn't know anyone grazing their animals outdoors for the entire winter, but he finds it an enticing goal. "We should try, and we should find out [from] the folks who are successful—find out what their secrets are," he says.

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Technology Talk: Turning Off More Than Fences

by Jacob Gilley, American Farmland Trust

This past fall, I was encountered with a fallen cherry tree on one of the stretches of high tensile electric fence on a farm we lease for our cattle.

As you may know, wilting cherry tree leaves pose a hazard if ingested by livestock due to their production of prussic acid, which is also known as hydrogen cyanide. After ingestion, the cyanide compound quickly inhibits the animal's ability to use oxygen and death can occur within minutes to hours.

In the case of this particular fallen cherry tree, I could either cut it up immediately and transport the branches and leaves before wilting occurred, roll the dice and leave the cattle in the pasture with the wilting leaves, or move the livestock to another pasture until there was enough time which could be allocated to cutting the tree off of the fence.

Like most producers, my schedule is typically over-booked and cutting the tree as soon as it fell was not in my cards.

Fortunately, we implement a rotational grazing program where a gate could be opened and the livestock could be moved to another field.

Maintaining a "hot" electric fence is extremely important so that cattle continue to respect it and stay within its boundary.

However, an entire cherry tree which has smashed all wires to the ground is not conducive to a "hot" electric fence.

Fortunately, we had purchased and installed cutoff switches at this farm earlier in the year, prior to the tree falling.

Though we weren't involved with the original planning and construction of this fence, we were able to cut the wires at the ends of each stretch and create dead ends which tied back into cutoff switches.

By isolating sections of electric fence, we can maintain "hot" fences which are actually effective at containing livestock.

With ear plugs in and running the chainsaw to clear the tree from the fence, I started to

do some thinking about cutoff switches, how they work, and their benefits.

I then realized that there was much I could learn from cutoff switches with regard to conversations my wife and I often have around the topic of how hard it is to turn off components of our farm.

I'm sure that I'm not alone in the fact that I often think about the farm as soon as I wake up, throughout the day, before bed, and sometimes while sleeping. For me, turning off the farm can be challenging, which sometimes limits my ability to fully integrate into other conversations, topics, and activities.

As we progress into the year 2021, I hope to implement additional cutoff switches for the entire operation versus just our electric fences.

For our diversified farm, it's hard to find a season that isn't full of activities to be accomplished, but with some careful planning, I hope to identify times in which I can cut off components of the farm so that other elements of my life such as religion, family, friends, and relaxation can pack a stronger punch and allow me to be more energized for when various components of the farm are turned back on.



PHOTO: JACOB GILLEY

Grazing and Soil Health To-go, Please!

Graziers in Pennsylvania can receive grazing and soil health information on-the-go through the Pennsylvania Grazing Lands Coalition's Graziers Grapevine podcast series.

The podcast series features one-to-one conversations with established and beginning graziers, technical advisors, and even conservation and research professionals.

Episodes are recorded and released throughout the year and accessible at paglc.org/category/the-graziers-grapevine/ or through standard podcast outlets like iTunes, Spotify, or Google Podcasts.

Jennifer Albright, the host for the series, uses her experience to guide conversation during each interview. Jenn shares details about her background and why she and her husband chose to raise grass-fed beef on their farm in Lebanon County, PA. In addition to interview style episodes, Jenn also includes recordings captured during local workshops and encourages listeners to submit questions or even topic ideas that can be included in future episodes.

The Graziers Grapevine is produced with support from Capital RC&D, Chesapeake Bay Foundation, the Mountains to Bay Grazing Alliance partners, and National Fish and Wildlife Foundation and their funding sources.

Visit paglc.org to learn more about the Graziers Grapevine, the work of the PA GLC and how they support graziers throughout the state.

For more information, contact Jennifer Albright at PA GLC at 717-608-6134 or goldfinchmeadows@comcast.net.

The Pennsylvania Grazing Lands Coalition (PAGLC) aims to address the needs of grazing and forage lands in Pennsylvania through education, mentorship, research, and the promotion of partnerships to achieve shared goals.

2021 Grazing Calendars Are Here!

The 2021 Pennsylvania Grazing Calendar is here! The Mountains to Bay Grazing Alliance, Chesapeake Bay Foundation, Pennsylvania Grazing Lands Coalition, and other partners have published the annual Pennsylvania Grazing Calendar. It features scenic photos from Pennsylvania farms, tips and tidbits for pasturing livestock, and information about helpful resources.

For example, Donna Foulk contributed some tips on perennial cool season grasses:

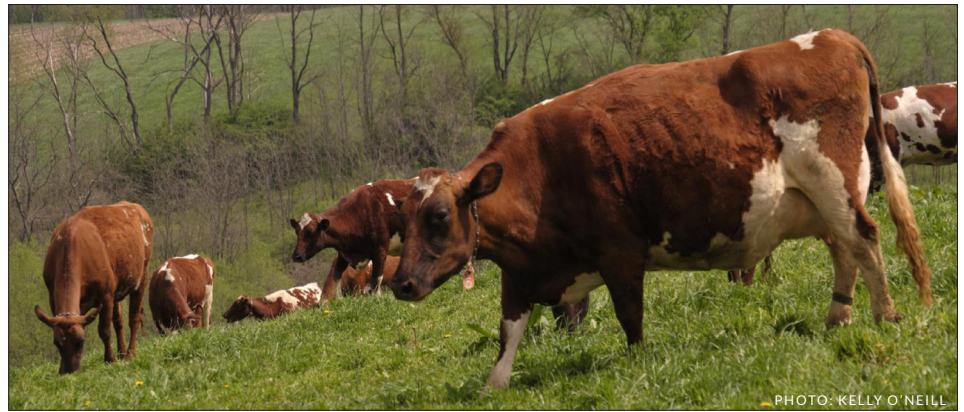


PHOTO: KELLY O'NEILL

Cool-season grasses provide excellent grazing in the spring and fall, with decreased summer productivity.

The selection of forage species depends on climate, soil drainage, stocking density, management practices, and livestock nutritional needs.

Multiple forage species mixes are preferable over single species plantings because they are better able to adapt to changes in disease and insect pressure, weather, and management.

Sod-forming Grasses

Kentucky Bluegrass is a short, fine grass with a dark blue-green color that is very palatable and winter hardy. It tolerates close grazing, matures in early spring, frequently is dormant in summer, and resumes growth in fall.

Brome is a tall, leafy grass that maintains forage quality late in spring and provides a good hay crop. It establishes slowly and

requires management due to the delayed recovery after grazing.

Reed canary grass tolerates wet, droughty, and low pH soils, and grows to six feet unless managed through grazing at high densities. Older varieties contain alkaloids that reduce palatability.

Bunch Type Grasses

Orchard grass is high yielding with rapid spring growth, and fairly tolerant of shade, drought, and heat. Its quality decreases rapidly as it matures and close grazing requires good management.

Perennial ryegrass has high palatability and energy, and tolerates frequent grazing well. It quickly germinates and becomes established, but poor winter hardiness and drought intolerance lead to low stand persistence.

Tall fescue is a coarse-bladed grass that tolerates many soil conditions, poor fertility,

heavy traffic, and frequent grazing. Although it provides summer growth, palatability may be low. Old varieties (K31) contain a fungus that produces toxins that reduce weight gain in young animals and cause reproductive problems in mares. Select newer varieties that are finer textured and described as novel endophyte or endophyte-free.

Timothy is shallow rooted so has low tolerance of drought or intense grazing. It is later maturing than orchard grass.

To get your copy of the Pennsylvania Grazing Calendar, please email Kelly O'Neill at koneill@cbf.org.

Maryland and Virginia also have grazing calendars with grazing tips geared for farmers in their states.

Contact Rob Schnabel at rschnabel@cbf.org for the Maryland planner and Alston Horn at ahorn@cbf.org for the Virginia version.

Mountains-to-Bay Grazing Alliance



Future Harvest's 22nd Annual Conference is Here!

With the long, dark days of winter ahead, it's always nice to have something to look forward to. From January 14 to January 16, 2021, farmers and graziers will gather online for [Future Harvest's 22nd annual conference: Crisis and Resilience: Farmers Building a New Food Future](#).

With the cancellation of this year's Grazers' Summit, the conference provides a great alternative. This year's event is full of grazing-focused sessions, including panel discussions, presentations, group roundtables, and a book club. Plus, ticket purchasers will have access to recordings of the keynote speakers and workshops.

The conference kicks off with a grazing-focused pre-conference session on "Predator Protection for Livestock and Poultry." Jan Dohner will teach you how to assess potential threats and will delve into the fundamentals of using guardian animals, including the pros and cons of llamas, donkeys, and dogs. Plus, learn about basic care and typical training and troubleshooting issues.

The main conference launches on Friday and includes grazing sessions in both the Grassfed Meat & Dairy and Regenerative Agriculture tracks. But don't forget to set your alarm for Saturday morning, where Chris Newman of Sylvanaqua Farms will talk about "The Next Agriculture Economy."

The future of farming in America faces broad, systemic challenges, but the discussion is largely about farms and consumer behavior rather than systemic change. Chris will discuss an emerging design for an integrated, BIPOC-led food system in the Chesapeake Bay

region that creates the necessary conditions for truly thriving farms, communities, and the environment.

In "Grassfed Meat & Dairy," join Brad Shaw, a farm consultant from Tennessee, to learn "What you REALLY need to know about electric fences." Then, click over to the session led by Renard Turner of Vanguard Rance to gather some "Key Tips for Raising Small Ruminants Naturally." Challenged by internal parasites? How about hoof rot and scald? Renard Turner will talk about his stock selection, breeding, nutrition, and management strategies for raising healthy and happy small ruminants for meat on pasture.

Figuring out "The Economics of Small-Scale Poultry Production," Dale Johnson, Agricultural Economist at UMD will go through the steps you need to take to analyze your own operation.

And Jacob Gilley of the American Farmland Trust will go over "Lessons Learned from Adopting and Grazing Summer Annuals," highlighting the good, bad, and ugly of what the American Farmland Trust's Sustainable Grazing Project taught during the 2020 grazing season.

Meanwhile, in "Regenerative Agriculture," Brent Wills of Wills Soil & Stream will discuss "Healthy Soil for Plant and Planet," focusing on how farmers are using regenerative practices and building soil.

Looking to add compost into your operation? Steward Lundy, from Perennial Roots Farm will talk about "Making Even Better Compost."

And, finally, "The Million Acre Challenge (MAC) Presents: The Dollars and Sense of Soil Health." This moderated panel discussion will bring together three top-notch farmers from across the country who are making soil health work on their farms. The MAC is a new, collaborative project helping Maryland farmers build soil health, increase farm profitability, and improve water quality while making farms resilient and active in the face of climate change.

The afternoons will be full of farmer-to-farmer roundtables and clinics, including "Reading Your Soil Samples and Creating Nutrient Management Plans;" "Minerals, Feed and Balance;" and a book club on "Sacred Cow."

Alyssa Walsh from Fertrell will lead the discussion on balancing the nutritional needs of your herds and flocks, while Amanda Cather of the Million Acre Challenge will lead a book group discussion about the role of animals in regenerative agriculture. Looking for funding? Join Sarah Hirsh and Erika Crowl of UMD Extension to discuss federal USDA conservation programs.

Tickets for this event are \$75 for Future Harvest members and \$120 for non-members.

Not sure how you feel about an online event? Don't forget that ticket purchasers will have access to recordings of the keynote speakers and workshops. You can send all conference questions to conferencesupport@futureharvest.org.

For more information, and to register, visit www.futureharvest.org

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UPCOMING EVENTS

Crisis and Resilience: Farmers Building a New Food Future

Future Harvest's 22nd Annual Conference January 14 through 16, 2021

This year's event is full of grazing-focused sessions, including panel discussions, presentations, group roundtables, and a book club. See the above article for more information about the sessions and speakers, or visit the conference website at futureharvestcasa.org/conference/2021-conference-program.

Maryland-Delaware Forage Conference January 14 and 19, 2021

The Maryland-Delaware Forage Conference is moving to a virtual session for 2021. The conference will take place over two partial days on January 14 and January 19 starting at 9:00 each morning. Topics include the use of warm season forages, pasture renovation, weed management, hay production, stand persistence, and soil fertility. Certified crop advisor, nutrient management, and private pesticide applicator credits will be offered. The event is free but registration is required. Visit <https://go.umd.edu/forage> for registration and additional details.

Virginia Forage and Grasslands Council's 2021 Virtual Winter Forage Conference January 18 through 22, 2021

The 2021 Virtual Winter Forage Conference, sponsored by Corteva AgSciences and other committed industry sponsors, includes two wonderful speakers this year! Greg Brann owns 900-acre Big Spring Farm, where he practices management-intensive and multi-species grazing. Greg has also used warm-season forages, livestock genetics, and novel feeding strategies to build resilience in his farm. Behind it all has been a focus on integrating soil, animal, and plant health for the improvement of the whole system. Greg direct markets his 100% grass fed & finished livestock.

Dr. Greg Halich has worked with farmers across the Southeast to improve their operations through grazing management, grazing economics, and feeding strategies to enhance

productivity and profitability. In this year's conference, Greg will be sharing research and experiences related to bale grazing, an emerging tool for managing pasture and hay feeding. Greg will also be discussing adaptive management of stocking rates and the effect of stocking rate on farm profitability. He will seek to show us how stocking rate and density are powerful tools for improving soil health and animal performance.

To find out more about what you might see at the conference watch this short promotional video: <https://youtu.be/OmFvPcFKYIM>.

Go to vaforges.org/2021-virtual-winter-forage-conference to register for this year's conference today for only \$20, which includes any family or farm member who will be watching together under the same log-in. The limit is 500 total participants nationwide, so register now while space is still available. Conference presentations will be recorded and posted for registered participants for a limited-time for viewing in case you miss one of the live presentations.

The conference series is now approved for 4.0 Nutrient Management CEU's, 6.0 Certified Crop Advisor CEU's, and 4.0 DCR Certified Conservation Planner contact hours.

PASA's Virtual Sustainable Agriculture Conference

January 19 through February 5, 2021

The annual Sustainable Agriculture Conference is one of the largest gatherings of sustainable farmers, food system professionals, and changemakers in the nation.

Each year, more than 2,000 attendees engage in an energizing and inspiring learning experience rooted in sharing, connecting, and advancing a common goal: cultivating farms and food systems that nourish, heal, and empower.

The 2021 Conference features 90+ sessions, 100+ speakers, and marks 30 years of hosting this hallmark event that has served as a springboard for transformative food system change in the Mid-Atlantic region and beyond.

To see a full list of speakers and sessions, and to register, visit web.cvent.com/event/091ee4c7-21fc-47fd-9541-07b655656e49/summary.

Pasture Biodiversity for Animal Health (webinar)

Thursday, January 21, 3:30 to 4:30 p.m.

The health of livestock, humans and the environment are closely tied to plant diversity. Sustainable farming practices, which use grazing animals, are seen as a potential solution to continued biodiversity loss resulting from over-or-under grazing.

There is evidence that healthy ecosystems with minimally disturbed soils, adequate access to diverse, high-quality forages, and clean water have a robust correlation with livestock's well-being.

In this webinar, Kara Kroeger, NCAT Sustainable Agriculture Specialist, will discuss how you can manage your pastures with regenerative methods to beneficially influence the health of your livestock and the ecosystem by fostering biodiversity both above and below ground.

Sponsored by Food Animal Concerns Trust. Register at anymeeting.com/AccountManager/RegEv.aspx?PIID=EF57DC86864D39.

Grazing to Avoid Trouble (webinar)

Tuesday, January 26, 4:00 to 5:00 p.m.

Join FACT and NCAT Livestock Specialist and sheep and goat producer Linda Coffey to discuss some of the problems farmers might encounter while grazing their livestock.

Bloat, toxic plants, fescue toxicity, predator control, parasite management, and more will be addressed in this hour, with time for questions. Help us meet your needs by sharing questions or comments on issues you have faced when you register below.

Linda Coffey brings many years of experience grazing sheep, goats, and sometimes cattle, as well as her work through the ATTRA program (attra.ncat.org) and will be providing those who register with many resources to help you improve your grazing and avoid trouble on your farm.

Sponsored by Food Animal Concerns Trust. Register at anymeeting.com/AccountManager/RegEv.aspx?PIID=EF57DFE81824B3D.

Mission Statement: The Mountains-to-Bay Grazing Alliance networks organizations within the agricultural community to support and encourage wider adoption of rotational grazing and related conservation practices that benefit water quality, improve soil health, and boost farm economies.