

MOUNTAINS-TO-BAY GRAZING ALLIANCE



News & Notes from the Mountains-to-Bay Grazing Alliance

December 2016

Rotate, Diversify to Enrich Pastures

by Philip Gruber • Reprinted with permission of Lancaster Farming

To build up healthy soil in their pastures, farmers should keep the cows moving and the forages changing, according to Sjoerd Duiker, a Penn State soil scientist.

Rotational grazing and forage diversity are essential tools of pasture management, Duiker said as he led a pasture walk on October 6 at the Eli Weaver farm in eastern Lancaster County.

For most of the year, Weaver puts his 30 dairy cows in the barn during the day and grazes them at night. At the spring flush, he said, he grazes as much as possible.

His pasture is divided into 10 one-acre paddocks, which are each subdivided into thirds. The first day he moves the cattle to a new paddock, they get one third. On the second day, he opens up the next third but does not fence off the section grazed the day before.

Regrazing can set back the forages' regrowth, but Weaver said he has not had a problem with that because he moves the cows to a new paddock so quickly.

Backfencing would be ideal, but Weaver would need to do something differently with his watering units, Duiker said.

Weaver said he likes to keep his perennial pastures for four to seven



Penn State Extension educator Jeff Graybill, left, and soil scientist Sjoerd Duiker look for worms in a pasture at a Leola, Pennsylvania farm.

years. By then, the forages are declining and may have been overrun by bluegrass, not a very productive grass species.

After he kills the perennials, Weaver plants a rotation of annuals for a year. That breaks the disease cycle, said Dave Wilson, an agronomist who has done a lot of work at Weaver's farm.

Unfortunately, the rain delayed Weaver's planting this year, and foxtails exploded across his newly seeded pastures. "It just simply choked everything out," Weaver said.

Weaver likes to seed pastures in April, so they would usually shade out the foxtails, which emerge later in the season.

Weaver mows his pastures in addition to grazing them. It "is important to clip the weeds" and keep them from setting seed, Wilson said.

Mowing has wiped out the thistles and

most other weeds, but Weaver said the foxtails outfoxed him by setting their heads lower and lower after each mowing until they were below the clipping height.

Now Weaver needs to decide what he will do with these pastures for next year—try to restore what he's got or start anew.

"Restoration can often work, but you may never have the perfect field that you want," said Jeff Graybill, a Penn State Extension educator.

The herbicide Prowl is now labeled for forage species. It could be a good alternative to glyphosate in pastures, as long as it is used early enough. "It only controls things that are germinating," Graybill said.

Weaver's emphasis on diverse forages and rotational grazing are paying off.

The pastures have five to eight percent organic matter. "That's very high," Duiker said.

Evidence of soil life is easy to find in Weaver's fields.

"These night crawlers must get a lot of food because they're tremendous," Duiker said, sorting through the castings the worms had deposited on the soil surface.

(story continues on page 2)

Night crawlers pull plant stems into their burrows. When the stems rot, the toothless worms are able to eat them, Duiker said.

Judging by some disturbed areas in the pasture, the abundant worms may have attracted skunks, Duiker said.

Weaver's farm is one of three in the state where Duiker is conducting a grazing case study.

Another participant, a Forest County beef farmer, would like to graze year-round. His record for a year is 294 days, impressive considering he is in one of the coldest parts of the state, Duiker said.

This year, the Forest County farmer got 3,600 pounds of forage per acre from a hairy vetch, clover, and annual rye mix. Duiker said the vetch was almost as tall as him and of high quality.

The Forest farmer views hay as food for both his livestock and the soil microbes. As a result, he has basically cut out purchased fertilizers, Duiker said.

The rule of thumb is to graze half of the plant matter and leave half for the livestock to trample, Duiker said.

The farmer packs his 70 cows into small paddocks and rotates them half a dozen times a day. Mob grazing can help soil health and productivity, but "you need to be devoted to doing that," Duiker said.

Mob grazing may not be the best strategy for dairies. "We want quality forage that's going to digest in their rumen and make us milk," Wilson said.

The Forest farmer is experimenting with warm-season perennials such as switchgrass, which can pick up the slack when cool-season forages are in

their summer slump. Unspectacular forage quality may limit such forages' usefulness on dairies, Duiker said.

Warm-season perennials are better suited to regions south of Lancaster County, Wilson said.

Summer annuals are a different story. Sudangrass and sorghum sudangrass are some of the fastest growing forages available to Lancaster dairy farmers. "You can almost watch them grow," Wilson said.

In the fall and spring, farmers can turn to oats, rye, and tillage radish. They can produce a lot of dry matter within two months of planting, Wilson said.

Interseeding annual ryegrass and clover into corn is another option. In a best-case scenario, the cows can graze the fresh cover crops with the corn stubble in both the fall and spring. That does not work every year, Wilson said.

Summer Stockpiling Pasture: A Novel System for Extending the Grazing Season

by Matt Booher, Virginia Cooperative Extension

In most parts of Virginia, pasture productivity is pretty consistently inconsistent. More often than not we have a glut of grass in spring, which is hayed from pasture only to be fed out later in the year—as early as September in dry years. For producers who stockpile fall pasture to extend the grazing season, this is a slap in the face. An unconventional practice can solve this problem for many.

Virginia Tech's McCormick Farm is an Agricultural Research & Extension Center located in the Shenandoah Valley. Its 500 acres of fescue-based pasture are managed in a grazing rotation for both research and production purposes. For the past nine years the farm has been using a summer stockpiling system to assist in extending the grazing season for their 230-cow herd. It is a strategy developed by the farm that has allowed them to stockpile excess



spring growth in the field without making hay, to provide pasture that is limit-grazed from mid-August to mid-October.

While this practice provides an important source of emergency forage, its true value is as a strategic tool to enable other acreage to be stockpiled in fall for winter grazing.

Used in this way, the summer-stockpiling system effectively allows for a reduction in hay feeding and

related cost savings. The McCormick Farm's records show that the summer stockpiling system has resulted in an average of 272 grazing days per year over the past nine years, ranging from 250 to 330 days depending on weather. In other words, the farm is now feeding hay for an average of only 85 days each year. Compared to the 150 days they used to feed hay, the summer stockpiling system has resulted in an estimated feed savings of \$36 per cow per year.

The summer-stockpiling system Pasture is selected in early spring to be summer-stockpiled and grazing is deferred on it from spring green-up through mid-August. Plants are allowed to mature and set seed without any grazing or mowing. Leafy regrowth accumulates below the canopy and, by August, stems

(story continues on page 3)

and seed heads dry down and begin to deteriorate. The McCormick Farm summer-stockpiles about 25% of their pasture acres each year, while the remainder is rotationally grazed through spring and summer. While applications of nitrogen do boost spring growth, it has not been found to increase yield of the final stockpile.

Late summer. Begin strip-grazing the summer stockpile in mid-August. The high stocking density afforded by strip-grazing is critical to stretch the forage supply. Use electric polywire and tread-in posts to allocate two or three days-worth of pasture at a time. It may help to set up two grazing allotments using two separate fences so the first fence can be taken up and “leapfrogged” past the second one to move animals to their next portion of stockpile. No back fence is necessary and pasture should be grazed short before moving animals in order to optimize use of the forage. Animals backgraze to the water source.

Fall and winter. As the summer stockpile is being grazed, apply nitrogen to other pastures and begin stockpiling fall growth for grazing in winter. When summer stockpiling is used on approximately 25% of pasture acres, cattle should be able to strip-graze on it for two months or more in late-summer/early fall, allowing for the fall stockpiling of 50% of total pasture acreage elsewhere. This model

has consistently extended the grazing season into January or later.

What is the nutritional value of summer stockpiled pasture?

While conventional wisdom would suggest summer stockpiled pasture is of low nutritional value, our testing shows it to be adequate for beef cows at any stage of production (including early-lactation). Growing or finishing animals would require some supplementation with protein and energy. Forage quality analysis of summer stockpiled pasture, with its abundant leafy undergrowth, has averaged about 11% crude protein (CP) and 60% total digestible nutrients (TDN). Additional testing using a fistulated steer indicates that cattle select a diet 2-3 percentage points higher yet. The toxic alkaloid content of summer stockpiled pasture tested no higher than that of surrounding pasture grazed rotationally. Spring fertilization with nitrogen has not been shown to consistently boost the protein content of the final stockpile.

How long can cattle typically graze the summer stockpile?

Forage yield, livestock density, and the frequency at which they are moved determine how long the stockpile will last. During our research, stockpile yield ranged from 2.5 to 4 tons per acre. When the herd is strip-grazed on the stockpile the resulting stocking density is around 60,000 pounds

of liveweight per acre and cattle are moved about every three days. Under these conditions the summer stockpile has consistently provided 60 or more days of grazing. In addition, the summer stockpile system results in a significant amount of acreage (about 25% of total pasture) that has had the opportunity to regrow while the summer stockpile is being grazed. This acreage buys additional grazing time prior to winter grazing of the fall stockpile.

What are the typical labor requirements of the summer stockpile system?

Labor requirements prior to grazing are limited to setting up electric fencing or otherwise restricting livestock from the area to be stockpiled. When strip-grazing, labor requirements are typically 15-30 minutes, two or three times per week to move fencing.

How will summer stockpiling impact pasture health?

We have not seen any impacts of significance. It is thought that the long recovery period following grazing, as well as rotating the location of summer stockpiled areas, has prevented any lasting changes in pasture composition or plant vigor. In fact, the summer stockpiled pasture grazed earliest in the process often regrows enough to provide additional grazing before moving to the fall stockpile.

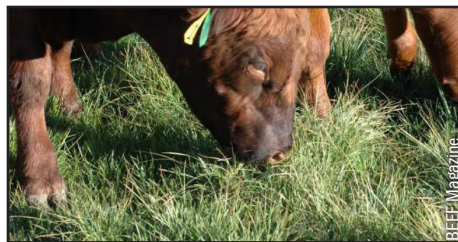
Cattle's Impact on Soil Health is Real and Valuable

by Alan Newport • Reprinted with permission from BEEF magazine, <http://beefmagazine.com>

When I first started learning about grazing management, the concept that most blew my mind was animal impact.

Not anymore. I've seen it with my own eyes, and scientific documentation is growing steadily.

For those uninitiated to the term, animal impact is the cumulative effect of plant biting, saliva, urination, defecation, trampling and all the other things grazing animals do to plants and their habitat.



The idea that these things can be positive when applied in the right ways and right timing can best be understood by thinking about the immense herds in which ruminants lived and traveled in significant

portions of the year, and the apparently high organic matter in prairie soils that resulted and are now degraded all over the world.

These days, those of us in the livestock industries should think about applying animal impact in terms of animal herd density, or stock density. That refers to the number of animals present in a paddock at one time, and it effectively compounds herd effect.

(story continues on page 4)

Personal experience

I saw this very visibly the growing season of 2011, the year after I grazed the small pasture near my house at super-high stock density during the fall of 2010.

All my grazing that fall was done at 200,000 pounds per acre of stock density and above. When I could spare the time, I used stock densities up to 1,000,000 pounds. In that droughty year, on the worn-out soils, that meant I usually had to just stand and watch the cattle graze and then move them as soon as they became listless and the forage was well-cropped. In other words, it only took a few minutes.

The amazing result I saw the next year was a tremendous crop of purple top, a mid-seral forage that's relatively high quality and loved by cattle. It was dramatically obvious: Where the cattle had grazed between the temporary fences, the purple top was dominant that first year. Under the fences it was mostly windmill grass, a locally prominent foxtail, and a mix of weeds typical of "go-back" farm ground.

Since then, I have grazed cattle on this pasture every year except this year, and at moderately high stock densities ranging from 20,000 to 250,000 pounds per acre. The forage type and quality continue to improve visibly, soil samples suggest the soil is improving, and forage volume is improving. Yet I've never seen so dramatic a change as I did that first year when I applied the most animal impact.

Scientific evidence

Moreover, studies by a group of scientists and ranchers working in several projects are showing high stock-density management develops soil much more quickly than lighter-density "rotation" grazing.

Allen Williams, a private consultant, grazer, and partner in the land



management firm Standard Soil, shared the figures from a research project he helped conduct.

Williams and other scientists are comparing the effects of management on the soils of three farms/ranches in Mississippi, and are expanding the efforts to other regions of the country.

Williams explains the first set of data were collected in the fall of 2014 using three farms in northeast Mississippi. The farms agreed to participate in a multi-year study. They are in close proximity to each other and have the same soil types, topography and annual average rainfall. The primary difference is the grazing strategy employed by each farm.

The three farms selected were:

Farm 1 – Practices Adaptive Multi-Paddock Grazing (AMP) for the past five years. Prior to that, the farm was alternately in row crops, dairy, and CRP for the last several decades. Stock density for the AMP grazing over the past five years was strategically alternated between 100,000 pounds per acre and over 500,000 pounds per acre, with cattle being moved either daily or multiple times a day to fresh pasture.

Starting soil organic matter at the beginning of AMP grazing five years ago was 1.5%-1.6%. A cow-calf operation has been maintained on the farm for the past five years with the cattle used as a tool for land improvement as well as for beef production.

Farm 2 – Practices a grazing methodology with high stocking rates (HCG), in which the cattle are rotated to fresh pasture once every two to four weeks. The farm has been continuously in pasture and grazing for the past 50 years, alternating between cow-calf and stocker grazing.

Farm 3 – Practices continuous grazing with low stocking rates (LCG). Cattle are free to graze most of the farm without restriction to movement. This farm has been in continuous grazing (primarily cow-calf) for the past 40 years.

Many scientists have said for many years that soil organic matter (SOM) cannot be improved. The data from this trial show differently.

On the AMP farm, which uses high stock-density grazing and heavy animal impact, SOM was 4.26% in the top 6 inches and 1.98% at 36 inches. The AMP farm started five years before the study began with an average of just 1.5% SOM in the top 6 inches, so the SOM has increased almost threefold within a five-year period.

SOM from five years ago was not available for the HCG and LCG farms. Williams and the other researchers estimate the current SOM on the HCG and LCG farms is about the same as it was five years ago since management has been static.

On the HCG farm, SOM ranged from 3.28% in the top 6 inches to 0.82% at 36 inches.

On the LCG farm, SOM ranged from 2.72% in the top 6 inches to 0.68% at 36 inches.

Animal impact and the way you choose to manage grazing makes a huge difference. Data and empirical evidence show the more you can apply these principles, the faster you can make improvements.

Organic Dairy Producers Discuss Crossbreeding

by Charlene M. Shupp • Reprinted with permission of Lancaster Farming

Calving time at Matt Bomgardner's dairy farm is exciting. Why? Because the calves often look quite different from their mothers thanks to his crossbreeding program. They range from dark red to brown or black in solid, spotted, or brindled colors.

Bomgardner said his 100-cow dairy herd, which is transitioning from a conventional system to organic, definitely does not look like his neighbors' cows.

That was evident at the Penn State Extension dairy workshop this fall at Bomgardner's Blue Mountain View Farm in Annville.

He said the family's move into crossbreeding started after his father expressed frustration at the number of difficult heifer calvings.

In 2002, they purchased a Jersey bull to breed their Holstein heifers to improve calving ease. But Bomgardner said it did not go well.

"We had Jersey production with Holstein components," he said. "We changed bulls, and we did see improvement."

Then they crossed back to Holstein bulls with strong calving ease ratings. Bomgardner said he was frustrated at first with the crossbred cattle and was considering whether to cull the group.

He had separated the Holsteins and his crossbred cattle into two groups and began to compile data to find reasons to cull out the crossbreds.

Instead, Bomgardner found his crossbred group was proving to be more profitable.

"We found that they were eating less (than the Holsteins) and were commercially viable," he said. Reproduction was better, and the crossbred cattle held better body condition in the grazing system compared with the Holsteins.



Matt Bomgardner discusses his dairy farm management.

Bomgardner's approach is a three-breed mix focused on developing cows that work well in his grazing system. Most are Holstein, Jersey, and Swedish/Norwegian-Red crosses.

He said he's used other breeds for the cross, but so far, this one seems to be best. The rolling herd average is 21,000 pounds of milk from twice-a-day milkings.

Bomgardner uses artificial insemination to manage his crossbreeding program and actively monitors for heat detection as the herd transitions into organic dairy production.

He has biannual calving seasons and said the monitors have worked well in detecting heats. They don't replace good herd management, Bomgardner said, as there are times he catches a cow in standing heat that's not been reported by the system.

Dairy farmer Greg Stricker of Spring Creek Farms in Wernersville said his father has also experimented with different breeding programs for some time.

The farm moved into a pasture-based dairying system in the 1990s and then to organic dairying in the 2000s. Unlike Bomgardner, the Strickers' foray into Holstein/Jersey crosses succeeded right away.

Stricker said the crossbreds showed better vigor, and the family decided to raise its own bulls and use natural service instead of artificial insemination.

Herd bulls are selected from the farm's best cows, he said. It's risky because there is a chance the bull might be a dud. However reproduction rates improved under the natural service program.

The bulls are kept with the breeding herd most of the year with December and January avoided for calving. Stricker said it's vital for safety to always know where the bull is when he is running with the milking herd.

The Strickers have gone to a forage-only ration and reduced the herd to about 120 to match the number of cows to the available pasture.

Penn State dairy educator Mat Haan also discussed activity monitors during the workshop, reviewing the different systems that are available.

Activity monitors do not replace good management, he said, and farmers do need basic computer skills and the time to manage the system.

These systems can be especially beneficial for organic dairies, which are not able to use hormone shot programs to assist with breeding.

Haan recommended that farmers visit an operation using an activity system to observe how it works and to find out what technical support will be provided by the company.

He said he would be available to help them evaluate the costs and the return on investment of an activity monitor system.

Haan reviewed several case studies he's conducted at Pennsylvania dairies using activity monitors as part of a herd expansion or transition into organic production.

He said the producers were surprised at the improved reproduction in their breeding age heifers. All saw a reduction in the age of first calving and a tightening of the age window.

Grazing Planners Available

The Mountains-to-Bay Grazing Alliance is pleased to announce that annual grazing planners are available for in Maryland, Pennsylvania, and Virginia.

The Planners are in calendar format. The Maryland Planner is geared toward consumers. The Pennsylvania and Virginia Planners are marketed to farmers who are grazing or considering it, offering tips on what tasks farmers should perform monthly to ensure success with rotational grazing. The Pennsylvania and Maryland

Planners also provide a convenient way for farmers to easily meet NRCS documentation requirements in order to receive cost-share payments and provides farmers with good records for future planning.

If you would like to request your own copy, please contact one of the following:

For a Maryland Planner, contact Michael Heller at mheller@cbf.org.

For a Pennsylvania Planner, contact

Kelly O'Neill at koneill@cbf.org.

For a Virginia Planner, contact Alston Horn at ahorn@cbf.org.



Grazing Planners are available for farmers in Maryland, Pennsylvania, and Virginia.

Management Strategies to be Addressed at Upcoming Hay and Pasture Conferences

by Les Vough, Southern Maryland RC&D

Winter is the time for educational meetings and conferences to learn the latest developments and update your management skills. Forages tend to be overlooked in a lot of the county Extension educational programming but regional conferences that focus on hay and pasture management are offered within reasonable travel distance for most people.

Do you know that plant structure and type of growth affect how forage grasses and legumes should be managed? For example, are you aware that orchardgrass should be grazed differently than Kentucky bluegrass or even tall fescue? Plant structure and type of growth will also affect what grasses and legumes should be combined in hay and pasture mixtures.

Dr. Ray Smith, University of Kentucky Extension Forage Specialist, will discuss *The Effects of Plant Structure and Type of Growth on Hay and Pasture Management* at a series of Hay and Pasture Conferences to be held in Maryland and Delaware in early January. He says that the best managers do not rely on a simple list of recommendations they may have read in a publication or heard at a conference but instead, they focus on

understanding how the plant grows. Once growers understand grass and legume plant growth they can determine the management strategy that is appropriate for their particular operation.

Since management varies according to region, soil type, climatic conditions, etc., there is no one management scheme that works for everyone. Dr. Smith's presentation will focus on plant growth and the impact that growth type has on how each grass and legume should be properly managed.

Attendees will also be able to get a free forage analysis if they bring a bale of hay to one of the conference locations. David Wert, President and Reporter, Market News LLC, Lewisburg, PA, will discuss *Hay Testing: How to Sample and What Numbers to Expect for Various Types of Hay* and demonstrate the process of performing a forage analysis with a portable NIRS (near infrared spectroscopy) unit.

Please RSVP by January 2 to Dan Severson (severson@udel.edu or 302/831-8860) if you plan to bring a bale of hay to be cored and sampled at the Delmarva conference; to Ben Beale (bbeale@umd.edu or 301/475-4484)

if you plan to bring a bale of hay to the Southern Maryland conference; or Willie Lantz (wlantz@umd.edu or 301/334-6960) if you plan to bring a bale to the Tri-State conference.

Forage analysis reports have many, many numbers. Do you know what all those numbers mean and what they represent? Following Wert's presentation and demonstration, I will define and interpret the numbers on a sample report—*Cutting Through the Fog: How to Make Sense of a Forage Analysis Report*.

Weed and pest control topics will round out the program agendas at each location. Agendas for each conference will be posted online at <http://psla.umd.edu/extension/maryland-forages-program> or you can contact the local coordinators listed above for more information.

The Delmarva conference will be held January 10 at the Delaware State Fairgrounds in Harrington, the Southern Maryland conference January 11 at the Baden Volunteer Fire Department, in Brandywine, Maryland, and Tri-State conferences January 12, at Garrett College, McHenry, Maryland.

American Forage and Grassland Council Annual Conference

"Opportunities in Grassland Agriculture" will be the focus of the 2017 American Forage and Grassland Council's Annual Conference that will be held in Roanoke, Virginia on January 22-25, 2017.

The Conference will begin with a tour highlighting two outstanding operations, Tuck Farm and Dawn Dairy. Tuck Farm will focus on their winter grazing program and Dawn Dairy will focus on their perennial forage base establishment. Both stops will provide attendees with a first-hand look at excellent forage management practices.

The keynote speaker for this year's conference is author Courtney White. Courtney's address, *Grass, Soil, Hope: Regenerative Solutions for Changing Times*, will inspire conference participants to think about low-cost and low-input solutions to address big problems facing our planet.

The conference will also feature workshops focused on restorative grazing, market opportunities, pasture-based dairies, mob grazing, sheep production, and more. In addition to workshops, the conference offers scientific poster presentations; an outstanding exhibit hall representing seed, chemical, fencing and other industry companies and organizations; and many networking opportunities

It does not matter if you are 16 or 60 years old, if you are interested in profitable grassland agriculture and being a part of the solution to the monumental challenges facing our planet, this is a conference that you do not want to miss!

The American Forage and Grassland Council is an organization comprised of 22 affiliate councils with over 2,500 members and is the leading voice for economically and environmentally sound forage-based agriculture. Founded in 1944, its primary objective is to bring producers, educators, scientists, and industry professionals together to promote and advance forages in agriculture.

For more information on this conference and to view the program, please visit www.afgc.org.

Northeast Pasture Consortium

The 2017 Northeast Pasture Consortium Annual Conference and Meeting will be held on March 2 and 3 at the Clarion Hotel and Conference Center in Hagerstown, Maryland.

This year's theme is: "From Pasture to Table—Grass Fed Livestock Production of Meat and Milk and Its Preparation—Their Effects on Fatty Acid Composition and Human Health."

The Northeast Pasture Consortium (NEPC) is a private-public partnership of farmers, agribusiness suppliers, and nongovernmental organizations from the Northeast Region and Ohio. Public representatives include land-grant universities, USDA-Agricultural Research Service locations and USDA-NRCS grazing land specialists and coordinators. These public-sector members conduct grazing research and/or provide pasture-based farming education and technology transfer.

Private representation and leadership for the NEPC comes from a variety of farm types and networks, including statewide and local grazing groups, individual livestock farms, and industries, all with a common goal of promoting grass-based animal operations.

Consortium annual meetings bring together a diverse group of pasture-based farmers, researchers, private and public technical providers, educators, nongovernmental organizations, and regulating agencies. Through the exchange of perspectives and experiences, all participants learn about and better understand the grazing opportunities and challenges in the Northeast Region.

Since its inception in 1996, the NEPC has driven collaborative research among its public and private sector members. At the groundbreaking workshop in March 1998, more than 110 livestock producers, scientists, educators, and agribusiness suppliers from the northeast states came together and developed a mission for the group that focuses on prioritizing short- and long-term research needs, finding properly trained researchers to work on practical solutions for these needs, and extending these solutions to farmers.

For more information on the NEPC and annual meeting, or to get involved as a farmer member, please check out the website at <http://grazingguide.net/>

Mountains-to-Bay Grazing Alliance Partnership



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Maryland Events

FUTURE HARVEST CULTIVATE THE CHESAPEAKE FOODSHED 18TH ANNUAL CONFERENCE

January 12 through 14
College Park Marriott
3501 University Boulevard East,
Hyattsville, MD

Attend the region's largest farm and food gathering! The 18th annual conference is three days of local farm and food workshops, farm fresh meals, inspiring speakers, networking opportunities, and the local Fare Fair. To register or for more information, [click here to access Future Harvest CASA's website.](#)

MEETING OF THE MARYLAND GRAZERS NETWORK

The Maryland Grazers Network is planning a January meeting in the Hagerstown area. This will be an informal gathering over lunch to discuss the past grazing season and talk about next year's plans for workshops, conference speakers, and calendars. Everyone is welcome. The date has not yet been set, but if you would like to be alerted when a date is selected, please email Michael Heller at mheller@cbf.org.

MARYLAND CATTLE INDUSTRY CONVENTION AND HAY & PASTURE CONFERENCE

March 6 through 7
Hager Hall Convention Center
901 Dual Highway, Hagerstown, MD

This joint conference is designed for all individuals interested in livestock, hay, pastures, and forages. Register by [clicking here to go to the Maryland Cattlemen's Association website.](#)

If you need more information on grazing in Maryland, please contact Michael Heller at mheller@cbf.org or Jeff Semler at jsemler@umd.edu.

Pennsylvania Events

LEBANON COUNTY GRAZING NETWORK GRAZING CONFERENCE

Thursday, January 19
9:45 a.m.–2:00 p.m.
Lebanon County Extension Office
2120 Cornwall Road, Lebanon, PA

Dan Ludwig and Kris Ribble from NRCS, and Russ Wilson from Wilson Land & Cattle Co. will discuss grazing management practices. To register, call Susan Richards at 717/241-4361.

FARMING FOR THE FUTURE CONFERENCE

February 1 through 4
The Penn Stater Conference Center
215 Innovation Blvd., State College, PA

Attend the Pennsylvania Association for Sustainable Agriculture's (PASA's) 26th Annual Conference for an event that will inspire you to get back out into your fields for another year of sustainable food production. Register by [clicking here to go to PASA's Conference website.](#)

NORTHWEST PENNSYLVANIA GRAZING CONFERENCE

Thursday, March 16, 8:15 a.m.–4:30 p.m.
Trinity Point Church of God
180 West Trinity Drive, Clarion, PA

Various experts will host sessions focused on the economics of a successful grass-fed beef operation, responsible management of pasture, and the economic and soil health benefits of integrating livestock into cropping systems. To register, [click here](#) or call Cheri Micale at 814/503-8653.

If you need more information on grazing in Pennsylvania, please contact Red Barn Consulting at 717/393-2176 or Capital RC&D at 717/241-4361.

Virginia Events

“KNEE DEEP” GRAZING & PASTURE MANAGEMENT WORKSHOP SERIES

Thursday, January 19, 6:00 p.m.
Thursday, January 26, 6:00 p.m.
Thursday, February 2, 6:00 p.m.
Augusta County Government Center
18 Government Center Lane, Verona, VA
Make plans to join us for this three-day workshop series. Topics include matching forage quality and animal needs, pasture renovation and improvement, and designing a rotational grazing system, among others. To register, contact Matt Booher at mrbooher@vt.edu or 540/245-5750, or Rebecca Webert at rwebert@fcvirginias.com or 540/347-3344.

AMERICAN FORAGE AND GRASSLAND COUNCIL 2017 ANNUAL CONFERENCE

January 22 through 24
Hotel Roanoke and Conference Center
Roanoke, VA

The 73rd annual conference is focused on turning grass into cash and opportunities in grassland agriculture. For more information, [click here to visit the American Forage and Grassland Council's website.](#)

VIRGINIA NO-TILL ALLIANCE VANTAGE WINTER CONFERENCE

Wednesday, February 22
Rockingham County Fairgrounds
Harrisonburg, VA

Maximize farm productivity and profitability by learning more about the successful implementation of continuous no-till systems through shared ideas, technology, conservation, and education. To learn more, [please click here to visit the Virginia No-Till Alliance website.](#)

VIRGINIA GRAZING SCHOOL

Tuesday, April 25 and Wednesday, April 26
Shenandoah Valley Agricultural Research and Extension Center
Virginia Tech McCormick Farm
128 McCormick Farm Circle, Raphine, VA

Designed with beginning and experienced producers in mind, this two-day, intensive course will teach you everything you need to know to better manage grazing on your farm. To register or for more information, contact Matt Booher at mrbooher@vt.edu or 540/245-5750.

If you need more information on grazing in Virginia, please contact Alston Horn at 540/487-9060 or Matt Booher at 540/245-5750.

Webinars

GRAZING GUIDES WEBINAR: INCORPORATING BRASSICAS INTO YOUR GRAZING SYSTEM

Wednesday, January 11, 1:00–2:00 p.m.
Forage brassicas are high quality forages. Grazing management is important when using brassicas to ensure maximum animal performance and productivity of the pasture. This webinar will be led by Mat Haan from Penn State Extension and Leanne Dillard from USDA. [Register for the webinar by clicking here.](#)

GRAZING GUIDES WEBINAR: ORGANIC DAIRY FEED MANAGEMENT PROJECT

Wednesday, February 8, 1:00–2:00 p.m.
This program will present data from a recent Penn State study evaluating economic, environmental, and production data from organic dairy farms in Pennsylvania. Factors that lead to successful management of these dairy farms will be discussed. This webinar will be led by Mat Haan from Penn State Extension. [Register for the webinar by clicking here.](#)