

MOUNTAINS-TO-BAY GRAZING ALLIANCE



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

April 2017

Our Five-Step Plan for Healthier Soils

by Gabe Brown • Reprinted with permission of *Graze Magazine* • www.grazeonline.com

I want to start by telling everyone up front that I am not a soil scientist. I am a farmer/rancher who has spent the last 20 years working to improve the soil resource on my operation.

I have tried doing this in a myriad of ways, with some successes and many “learning experiences.” What I am going to do is share some of my experiences and observations, using my own operation to illustrate the concepts I follow. Realize that every operation is different. Each has its unique set of circumstances, and it is up to the operator to determine what works best on his or her own farm.

When my wife Shelly and I purchased our operation in 1991, the cropland had seen heavy tillage for many, many years. The crops grown were all small grains, primarily spring wheat, oats, barley, and occasionally flax. Synthetic fertilizers and herbicides were used regularly. As a result, organic matter levels were at 1.7 to 1.9%, with water infiltration rates of only half-an-inch per hour. These were “normal” levels and rates for the area.

They were not, however, levels that allowed the soil to function properly. As a comparison, native rangeland on our operation is around 7% organic matter with an infiltration rate of 6 inches per hour. My soil had become nothing more than a medium to hold a plant upright! I was farming

a degraded resource and I needed to accept that fact.

I believe this is one of the most difficult things for a producer to realize: We are all farming degraded resources. It is up to us to regenerate those resources.

What kind of progress can we make by focusing on regeneration? In July we tested those fields that originally tested below 2% organic matter (OM) and less than half an inch of infiltration. We found soil OM levels in the 5.3-6.1% range, with infiltration rates at more than 8 inches per hour. We have achieved this without the use of synthetic fertilizers, pesticides, and fungicides. Over the course of two decades we have made excellent progress in turning a degraded resource into healthy soils that are productive without requiring lots of expensive crutches.

How did we do this? Before starting the regeneration process, we must understand some basics of soil health.

First, soil is a living, breathing, dynamic ecosystem. The organisms in this ecosystem are responsible for the clean air, clean water, and healthy plants that lead to healthy animals and healthy people.

Second, if we expect those organisms to function properly, we need to

provide them with what they need: a home and food. The home for the majority of these organisms is the pore spaces between soil particles. Many live in the small films of water that fill these pores. How do we ensure we have these pore spaces?

The first step was to eliminate tillage. Tillage destroys soil structure and reduces infiltration long term. I have been on hundreds of farms all over the U.S., Canada, and Australia, and have never seen an operation using tillage that has the soil structure and infiltration of our long-term no-till fields.

Carbon is the food for nearly all of these organisms. That carbon is found in root exudates, organic material from plants, waste products from other organisms, or the other organisms themselves. For me it has been a learning process to create the proper environment for supplying the carbon these organisms need. I have learned that you do not create that kind of environment through tillage.

After adopting zero-tillage, the second step to improving soil health is to increase diversity. I've made a point of observing the native prairie ecosystem and then transferring what I'm seeing to my cropland. When looking at a native prairie ecosystem, one of the

(story continues on page 2)

first things I notice is the incredible diversity. Grasses, forbs, legumes, and shrubs all live and thrive in harmony. Think of what each of these species has to offer. Some have shallow roots, some deep, some fibrous, some tap. But all are releasing root exudates to attract soil biology.

Now think of the cropland acres being farmed today. Monocultures! How is the soil biology in those cropland acres going to proliferate and thrive when it is being fed a monoculture diet, and even then only during the time the particular crop is growing? Due to various factors, we now have a production model that shuns both diversity and the idea of planting more than one crop per growing season. Do you ever wonder why weeds grow when cropland is idle? Nature is trying to do two things: cover the soil and provide a living root to produce the exudates that feed soil life.

There are four crop types: cool season grasses, cool season broadleaves, warm season grasses, and warm season broadleaves. You should be able to find all four of these when looking at healthy native rangeland.

We need to see this kind of diversity on our cropland as well. This is why a corn/soybean rotation is unsustainable. Yes, you can grow those crops year after year, but not without significant inputs. On our operation we try to grow as many of the four crop types as we can each year on each field. Obviously we do not always accomplish this, but it is important to try.

The third step in improving soil health is to feed soil life as long as you can throughout the year. Here in central North Dakota, we typically get our last frost around mid-May and our first fall frost around mid-September. I used to think those 120 days were my growing season.



How wrong I was. We now fall seed biennials that grow into early winter and break dormancy earlier in the spring, thus feeding soil organisms at a time when the cropland used to lie idle.

I think of it this way: Just as I ensure that my livestock have adequate nutrition throughout the year so, too, do I need to do the same with soil life.

Step number four is to add cover crops to the rotation. By cover crops I mean multiple-species blends. In the '90s I grew two- and three-way blends such as sorghum-sudangrass, millet and cowpeas, or hairy vetch, and winter triticale/sweetclover.

That all changed in 2006 when I heard a presentation by Dr. Ademir Calegari. Dr. Calegari is probably the world's foremost authority on cover crops. He spoke of the importance in growing multiple-species blends, recommending at least six or seven species in a blend. I immediately thought of the diversity of native prairie. This just makes sense. Since then we have planted very diverse blends, usually with 15 or more species.

What this does is speed up biological time. Fifteen species do in one year what a single species needs 15 years to

do. This strategy also provides a more varied diet for the biology within the soil. How healthy would we be if we were forced to eat the same thing day after day after day? How can we expect soil organisms to function properly if we restrict their diet?

The fifth step we have taken to improve soil health involves livestock integration. By this I do not mean just turning some livestock out on crop residues, but rather utilizing livestock as a tool to improve the resource. Take a look at how prairie soils were formed. Large herds of grazing animals moved across the landscape and did not return for an extended period of time, allowing the plants time to fully recover.

Not grazing livestock on our cropland is one of the most degrading things we can do for our resources. On our operation we grow multi-species blends, and then use livestock to convert these blends to a saleable product.

When we graze these blends we usually (but not always) use fairly high stock densities. We prefer densities of more than 500,000 pounds of live weight per acre. I realize those numbers may scare some people, but remember I emphasized that everyone has to figure out what works best on his or her operation. We also only allow the livestock to graze approximately a third of the above-ground biomass. We want to leave two-thirds as armor to protect the soil and to feed soil life.

These are the basic steps we are using to regenerate our soil resource.

Gabe Brown grass finishes beef on his family's ranch near Bismarck, ND. He will be a featured speaker at the Mountains-to-Bay Grazing Alliance's regional grazing conference scheduled for January 2018.

Surely One More Bite Can't Hurt . . . Can It?

by Matt Booher, Virginia Cooperative Extension

The image to the right is from a well-known study conducted about 50 years ago. For three years the researchers clipped rough fescue plants once per month to residual heights 5 inches, 3 inches, and 1.5 inches. They also compared these three defoliation heights with plants that had never been clipped.

As you can see from the photo, there is not much practical difference in root mass between the plant that was never clipped and the plant clipped to a height of 5 inches. Likewise, it is easy to see the detrimental effects of clipping to a 1.5-inch height.

But those are not the points you should take away from this. What you should pay close attention to is the difference in root mass between the plant clipped to 5 inches versus 3 inches. Therein lies the biggest practical difference in root mass: the plant managed to a long-term grazing height of 5 inches has significantly more active roots for gathering water, scavenging nutrients, and supporting aboveground growth.

The scary part is that the difference between the two management treatments is the difference between moving livestock to another field, or giving them one more day or so.

How often do you let them have “just one more bite” because you are afraid of wasting grass?

To play the devil's advocate, I will concede that grasses are pretty forgiving, and that this study represents a long-term result. I also haven't mentioned the important role of rest following grazing. I'm convinced, though, that the process of root pruning from mismanagement happens quickly and can easily snowball, particularly when a farm is overstocked.



From left to right: unclipped, clipped to 5 inches once per month, clipped to 3 inches once per month, and clipped to 1.5 inches once per month.

A. Johnston. 1961. *Can. J. Plant Sci.* 41:615-622.



At left: Initial plants clipped by the author.



At right: Roots after clipping at one inch and four inch.

The photos to the left are from a tall fescue bunch that I dug up and split into two plants. Initially, both plants had roots about 8 inches deep. I clipped one plant to a 4-inch height and the other to a 1-inch height. I repeated this one more time after a little regrowth and then allowed both plants to recover for about a month. You can clearly see that a big reduction in root depth and mass took place fairly quickly.

I'm sure you are already thinking of all the impacts short- or long-term grazing height might have on everything from yield to drought tolerance to stand longevity.

number one driver of animal performance—even over the nutritional quality of the forage. The quantity and quality of forage in a pasture goes down with each day animals remain on it and research shows that animal performance starts dropping as early as three days in.

I'll offer one more thought to those of you who are worried about “wasting” grass by moving livestock too soon. Forage availability (forage intake) is the

Obviously we do not live in an ideal world and our grazing management is going to be less than textbook at times. I think it is an important concept though, to remember the cost of “just one more bite.”

Pastures Key to Success of Grass-Based Dairy

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

KINZERS, Pa. — It's not easy to succeed with grass-based dairying. "It is a privilege that you earn," said dairy farmer Dwight Stoltzfoos. "It ups the ante of knowing how to manage the pastures all the more. That's the key."

Stoltzfoos and his father, Roman, operate Spring Wood Dairy as part of their Spring Wood Organic Farm in Kinzers.

They milk a crossbred dairy herd. Milking is winding down for the season as the herd heads to dry off. Their goal is to maximize milk production when the best forages are available.

Their move to a forage-only management program was a gradual process. Farmers cannot just flip a switch and move overnight from a ration that includes grain to one without. It can be difficult to balance out forage variabilities without grain and corn silage.

"Cows like predictability. That is what corn and corn silage do," Stoltzfoos said. "There is not much variation from one grain truckload to the next. It's the variability of the forage, that's the challenge. It's the up and down of that."

The farm's 220 milking cows have a rolling herd average of 8,656 pounds. The 220-acre home farm has 165 grazable acres.

The family converted to certified organic dairying in the 1990s. Stoltzfoos said his father was one of the first dairy farmers to make the switch.

"Organic is old hat for us" because of that 20 years of experience, he said.

The family had started cutting back on the grain as organic grain prices climbed in the late 2000s. When prices became too high, the Stoltzfooses moved to a forage-only ration.



Dwight Stoltzfoos stands in one of his pastures at his farm in Kinzers, PA.

Spring Wood Dairy joined 11 other Organic Valley dairy farms in December to create a route from Virginia to Pennsylvania for the company's Grassmilk brand.

The route starts in Dayton, Virginia, and ends in Myerstown, Pennsylvania. The milk is then shipped to Organic Valley's bottling plant in New York state.

In addition to being USDA Certified Organic, Grassmilk cows are 100% grass-fed, eating only fresh, organic grasses and dried forages, such as hay. They are not fed supplemental grains, such as corn or soybeans.

When not on pasture, the cows are milked twice a day in a double-10 Dairymaster New Zealand-style swing parlor. The farm has a pack barn and barnyard for the cattle during inclement weather. When not grazing, the cows are fed at an outdoor feed bunk.

Stoltzfoos said the farm receives a bonus from the cooperative for keeping the cows on a forage-only diet.

The herd is managed on a seasonal basis. Right now, the farm's cows have begun to dry off in earnest in preparation for the spring calving

season in March.

"It fits so well with grass-fed. We utilize the best grass for milk production. You can't produce milk cheaper than when you have spring grass," Stoltzfoos said.

Fine-tuning the pasture and the herd's genetics helps increase milk production. The family did see production drop while moving off grain, but since then production has been climbing year after year.

The crossbred herd is based on New Zealand Friesians but has evolved through breeding with Jersey and Norwegian Reds. Stoltzfoos said he likes that breeding mix for its grazing performance.

Farmers in a conventional barn will "push up feed" to encourage cows to eat. Stoltzfoos' pushup is opening up a new section of pasture for the cattle.

Grazing charts hang in his office to track which cows have grazed where through a growing season.

He monitors the pasture stands carefully. If one is up for replacement, it will become a "sacrifice pasture" for the dry cows through the winter, then

(story continues on next page)

be planted in the spring with a summer annual forage, grazed down again and reseeded in the fall.

The seed mix will have at least 10 plant varieties. The family works with King's AgriSeeds to develop a blend that meets its goals for the renovated pasture. The blend will have a ratio of 60% grass to 40% legumes.

"The more variety the better," Stoltzfoos said. "A good grass-fed cow likes a good balance." He said he's found as many as 70 plant varieties in a well-established pasture.

To make the whole system work, the pastures are reserved for the milking herd. "We push everything off farm that does not go through the parlor," Stoltzfoos said.

The heifers, for instance, are shipped to a heifer specialist in central New York state. "We do a herd swap every year," taking the weaned calves to the heifer farm and bringing bred heifers, Stoltzfoos said.

The first 60 heifers born after the season begins in March will be retained. Those born after that or out-of-season will be sold.

A mix of haylage, hay, and baleage is fed as a total mixed ration to help manage pasture variability. "We call it a TMR although there is not any grain in it," Stoltzfoos said.

The volume fed at the bunk depends on the season and pasture production. The goal is to have the cows get as much nutrition from the pasture as possible, but that has to be balanced with pasture health and forage quality.

The farm does purchase some forages, but Stoltzfoos said he is focused on feeding homegrown forages as much as he can.

Calves are grouped with nanny cows shortly after birth. Each nanny cow will have two to three calves. They are kept in group pens for a short period to encourage maternal bonding.

The calves and nanny cows are then

moved to a rental farm where they live on pasture. The nannies' milk helps to keep the calves growing as they learn to graze.

Many of the cows selected for this nanny group have had some challenges during previous lactations and are under consideration for culling.

"Calves have to be started right," especially since there is not a starter grain available, Stoltzfoos said. The calves will have been dehorned and tested for the A2 gene before they head to pasture.

About 50% of the calves are A2A2, and the rest are A1A2. A2A2 genetics means the cows produce only the A2 type beta casein protein.

Some research has shown A2A2 cow's milk to be easier to digest than A1 milk. Stoltzfoos said calves with the A2A2 genes sell at a premium.

The 20 cows and 55 calves in the nanny group are moved to pasture in April. "I like seasonal because we focus on that one thing," Stoltzfoos said. For instance, the calves arrive before spring field work begins.

The farm has a private label yogurt that's processed by King's Creamery in Lancaster and sold through the Stauffers of Kissel Hill and Darrenkamp's grocery chains.

Pitango Gelato uses the farm's processing plant to make a gelato sold in the Washington, D.C., area using the farm's eggs and milk.

About 10% of the farm's milk is sold through these specialty product lines.

There is no set formula for success in dairying. Stoltzfoos focuses on maximizing the use of his pastures. Other organic dairy farmers might take a minimalist approach.

"What I have observed," Stoltzfoos said, is "it's a tightrope balance." Each farmer has to come up with a management blend that works best for his farm.

Study Highlights Water Quantity and Quality Benefits of Rotational Grazing

A recent study published in the *Journal of Soil and Water Conservation* (Park et al., March/April 2017 vol. 72 no. 2 pages 102-121) found that rotational grazing was the best grazing management practice in terms of water conservation, vegetation regrowth, and the potential to reduce flood risk.

The overall objective of this study was to assess the impacts of alternate grazing management practices including light continuous, heavy continuous, rotational grazing, and no grazing on hydrological processes at the ranch and watershed scales in a watershed in north central Texas using a model known as the Soil and Water Assessment Tool (SWAT).

Results indicate that at the watershed scale, shifting grazing management from heavy continuous to rotational grazing decreased surface runoff by about 47%, increased infiltration by 5%, and decreased streamflow by 29.5%. These changes would translate into reductions in phosphorus, nitrogen and sediment losses as well.

Okay, so yes, it is a study in Texas (not this region) and yes, results are based on modeled, not measured, outcomes, but we think the conclusions are applicable. First, the model was calibrated and validated using the measured biomass and soil moisture data at the study ranches, and streamflow data at the watershed outlet over a 34-year period from 1980 to 2013—lending some confidence to the model results. Second, the inputs to the model—crop biomass and soil moisture—are clear benefits of well-managed grazing systems, lending support to broader applicability of the conclusions.

Do you know of other studies like this?? Please let us know!

Calving Season: Swoope Almanac—March 2017

by Bobby Whitescarver, Whitescarver Natural Resources Management

Green grass emerges from its brown, dormant cloak of winter. Northern Harriers glide and teeter, close to the ground in search of anything that moves. In the vast grasslands of Swoope, Virginia, at the headwaters of the Shenandoah River, it's voles they hunt. American Plum pushes forth its white blooms, and the metallic-blue, white bellied, male Tree Swallows arrive to guard nesting sites for their lifetime mates. This is March, the beginning of calving season on our beef cattle farm.

We have 135 pregnant beef cows that will give birth beginning around March first. It is absolutely the busiest time of the year on the farm and most days and nights during March we have to be on...24/7. Seventy percent of the calves are born during the first thirty days.

The cows are divided up into two groups of mature cows and one group of first calf heifers. This year we have 25 heifers. We keep them in the small fields close to the house so we can keep close watch on them because sometimes they do not know what is going on; they can do anything from being dumb to freaking out—screaming and hitting their baby.

Jeanne is the Herd Master

Jeanne, a ninth generation farmer is a cow whisperer. She's hard-driving with little patience. But when it comes to calves, her patience emerges. She



Jeanne teaching the #811 calf to nurse his mother. The cow has a condition called "balloon teat." [Click here for a guide to the Angus udder scoring system.](#)

can think like a cow. I saw a cow one time, dip her head at Jeanne and start charging. I would have run. Not Jeanne, she charged the cow! And sure enough the cow went the other way. All this and pearl earrings too. I

call her the Princess of Swoope.

There is inevitably a storm or a blizzard during every calving season and we try to prepare for it. Any calf that dies, we blame ourselves for lack of attention or endurance. I remember one year we had a snow-blowing blizzard during a full moon; nine calves were born and four perished from exposure before we could get to them. To this day we still blame ourselves.

Winter Storm Stella



Jeanne and Bobby's farm in Swoope, VA during Winter Storm Stella.

This year, Winter Storm Stella brought arctic cold wind and sub-zero temperatures during a full moon. We were lucky, only receiving two inches of snow as opposed to what was forecast. This is when we "farmer-up". The cold was not going to take a single baby from us if we could help it.

March 14, 7:30 p.m.

We checked the cows in the "Backfield" group. It was snowing, 26 degrees (F) with a howling wind making the temperature far below zero. Cow #X2's baby is shivering on the ground. It is cold to the touch. Jeanne puts her finger in its mouth, barely warm. We pick the calf up and carry him to the back of the Jeep. Jeanne's old mail Jeep is a perfect calf carrier. I call it "Uber for Calves."

Uber for Calves

With the back hatch open, I sit in the back of the Jeep with the cold, wet calf on my lap. Jeanne drives the Jeep

slowly toward the barn while making a sick calf call...the mother follows in a panicked kind of way. I watch her bulging eyes and breath shooting out of both nostrils as she follows. She smells her baby, screams a little, then follows. A couple of times the cow puts her head in the Jeep. Her head appears much larger than normal to me as she smells my face, looking for her baby.

A few times she gets confused and runs around the Jeep. We stop, set the baby out on the ground, let the pair reconnect then back into the Jeep to the barn.

At the barn, Jeanne opens the gates and I carry the calf to what we call the "porch." It's an extension of the barn having a roof and two sides. It will be much warmer where they can be out of the wind and bond in private.

The Calf Cooker

10:30 p.m.

We check the "Wheatlands" group. Cow #125 calved and it is cold to the touch. It will probably not survive the sub-zero temperatures. We pick him up, put him in the Jeep and return to the barn, leaving his mother alone in the dark. We put the calf into the "calf cooker". It's actually a calf "warmer" and it looks like a big lunchbox with a heater in it. His mother will be miserable, looking for him all night but her baby will live.

There aren't any additional cows with calving behavior so we go to the house for some rest. Laying in bed while Jeanne sleeps, I worry if I had put the calf cooker on too hot a setting. Tomorrow we may have pot roast.

Arctic Cold

Up at 5:00 a.m.

Thirteen degrees and strong wind. Suit up in coveralls, boots, coats, gloves... the moon lights our way to the barn. The ground crunches as we walk. Filled with anxiety we hope the baby

(story continues on next page)



The "calf cooker." It's actually a PolyDome Calf Warmer which has a small electric heater. Cold newborns are placed in it. This calf is warm and ready to go back to his mother.

in the "cooker" is alive. We peek into the cooker and presto! The little guy is standing up and gives us a loud good morning Baaaa! "I want my mother!"

Jeanne and I take the baby to its mother in the Wheatlands field. It's not quite pitch dark due to the full moon so we drive with no headlights. We assume she, as a good mother, will be in the same spot where she calved. She is.

We drop the baby off right in front of her and they immediately hook up.

For the rest of the morning, two more cold babies receive the "cooker" treatment. It's like a revolving door on this frigid day.

OB Chains

1:00 p.m.

Jeanne and Bob (our helper during calving) see cow #414 is in labor. One foot out and a nose. Where is the other foot? A foot back is really bad. Both may die unless assisted. They walk her into the barnyard and into the chute. Once her head is caught in the head catch, Jeanne goes into the womb with her arm, finds the leg that's back, brings it forward along side the other leg and puts calf-obstetric (OB) chains around the two feet. I'm holding the cow's tail, Jeanne and Bob are in the chute directly behind the cow. They attach handles to the chains and gently pull the legs when the cow pushes. It's an easy pull. The warm calf comes out and they carry it to the adjacent pen.

He's dead

We are all bewildered. The calf is dead. Could we have done more? Was it our

fault? She wasn't in labor that long; it was an easy pull. What happened? That calf should not have died. Where did we fail? Why did the calf die? We will never know and we will live with that thread of guilt for a long time.

She will lick the dead baby dry trying to make it live, not understanding. We all know what has to be done; graft a calf on this mother.

Grafting the Calf

As we continue checking cows and calves in the sub-zero temperatures, Jeanne gets on the phone to our beef cattle neighbors to see if anyone has a twin or orphan calf they want to sell. We are going to "graft" a baby onto the #414 cow.

We exhaust all of our beef cattle friends. There are no extra babies out there at the moment due to the weather. When there are no beef cattle babies, we resort to dairy calves. I call my friend Keith in Weyers Cave to see if they have any babies for sale. Bingo! They have one.

3:00 p.m.

Jeanne feeds hay to the herds with the tractor. Bob drags the dead #414 baby to the other side of the barn and hangs it from an iron hook to skin it. He leaves the umbilical cord and tail intact with the skin. I put our border collie, Val in the Jeep and drive to Weyers Cave to get the dairy calf.

Holstein Bull Calf

Keith meets me at their maturity barn. It's a five day old Holstein bull calf. It's a pretty big black and white calf. Keith helps me lift him into the back of the Jeep. The calf stands up in the back and remains fairly calm.

Keith says, "Well, are you going to tie him up or anything?"

My mind flashes back to other beef calves I have picked up for this purpose which was like wrestling with a billy goat in a small cage.

"No, he'll be alright," I reply.

Val Looks Scared to Death

Val takes a look at the calf. I guess to

him it looks like a giant border collie. He sneaks into the footwell of the passenger seat, curls up and hides his head between his paws.

Off we go. The bull calf stands up the whole time during the forty-five minute drive back to the farm. He would make a great sailor with that kind of balance.

Meanwhile, one of the heifers, #152, has just had her baby, so Jeanne and Bob put the pair on the "porch". The mother will lick that baby warm.

Uber for calves arrives at the barn. Bob and I put the bull calf in the cutting room of the barn and tie the black Angus skin on him with baler twine.

5:30 p.m.

Jeanne moves the #414 cow into the chute. As the cow walks down the chute I place a four foot long pipe behind her in front of the posts in the chute to prevent her from backing up. Jeanne walks behind her in the chute with a syringe of magic drugs that will make the cow go to la-la land for a while. She gives the shot as the cow walks down the chute into the head catch.

She Takes the Calf

Bob and I walk the Holstein calf wearing his new "skin" in front of the cow in the head catch. She takes several deep smells and gives out a cow's motherly sound. It's the "Oh my God, it's my baby" sound. Once we hear that sound we know it's going to work. Jeanne places the calf along side the cow and his head near the udder and wow, the calf starts sucking immediately. The cow makes more cooing sounds.

We release the cow from the head catch and put the two in the pen next to the chute to let nature take its course. That dairy calf nurses for all he's worth. He's much taller than a beef cattle baby so he has to turn his head sideways to suck. He sucks her on his knees even nursing while she lays down. He has hit the "mother load"! A happy pair.

Federal Funding Available for Maryland and Pennsylvania Grazers

The USDA Natural Resources Conservation Service (NRCS) announced in December that it awarded Regional Conservation Partnership Program (RCPP) funding to two new Chesapeake Bay Foundation (CBF) projects in Pennsylvania and Maryland.

Through the “Soil Health: Improving Land, Water and Profitability” project, CBF will collaborate with Penn State University, the Pennsylvania No-Till Alliance, Pennsylvania Association for Sustainable Agriculture, conservation districts in the three counties, and other partners to encourage and assist more farmers with implementing farm conservation practices that promote soil health and improve “whole-farm” performance and economic viability.

Partners will provide on-farm demonstrations, field days, videos, and other educational materials to farmers in Pennsylvania’s Clinton, Centre, and Lycoming counties.

Participating farms will adopt a suite

of practices to improve farm economic viability through reduced input costs and productivity gains associated with advanced management of soil as a living ecosystem, with financial support from the Conservation Stewardship Program and the Environmental Quality Incentives Program through the RCPP.

Farmers will employ management techniques such as: continuous no-till planting, diverse crop rotations, integrating grazing with crops, cover crops, and Integrated Pest Management to promote soil organisms and biodiversity. They will build soil organic matter and enhance soil health, to reduce soil erosion, nutrient and pesticide loss, stormwater runoff, and erosion to local streams.

In Maryland, producers in Carroll, Washington, and Frederick counties interested in converting to or expanding their grazing operations will be given priority federal Farm Bill funding for practices such as grazing

management plans, fencing, trails and walkways, watering facilities, water wells, stream crossing, forage planting, waste storage, and cover crops. Producers with forested buffers or interested in implementing buffers will be given additional priority.

Interested producers should look for sign-ups this fall at their local NRCS district office. Firm sign-up dates will be announced in the next edition of this newsletter.

These funds are available via a project funded by the NRCS’s Regional Conservation Partnership Program, entitled “Promoting Rotational Grazing in the Upper Potomac Watershed, MD,” a collaboration of NRCS, the Chesapeake Bay Foundation, Future Harvest-CASA, Maryland Department of Agriculture, CROPP/Organic Valley Farms, University of Maryland, Washington, Catocin/Frederick and Carroll County Soil Conservation Districts, U.S. Fish and Wildlife Service, Frederick County, and Hood College.

Case Study Farm Needed in Virginia

We invite you to participate in an exciting project to help other livestock producers successfully adopt rotational grazing. The Virginia Forage and Grassland Council is working with the Chesapeake Bay Foundation, University of Maryland, and other partners on a USDA Conservation Innovation Grant to promote rotational grazing.

Part of this project includes quantifying the benefits of rotational grazing on soil health, water quality, and farm economics. The project is also exploring market-based opportunities for grazers, such as carbon and nutrient trading programs.

We are seeking one additional farm in Virginia to serve as a “case study” farm

where we will assess the economic and environmental benefits of converting to more intensive grazing systems. For the case study farm, we will be:

- Using on-farm calculators to estimate nutrient loads and greenhouse gas emissions associated with a producer’s current practices and operations (“before”) and then “after” implementing a more intensive grazing system;
- Collecting soil samples to measure organic matter, pH, water capacity, and other parameters to estimate “soil health” in one field before and after conversion;
- Evaluating farm-scale economic changes by analyzing costs for feed, fertilizer, fuel, veterinary

ills, milk production, etc.

If you are interested in being one of our case study farms, please contact Matt Kowalski at 540/233-1066 or mkowalski@cbf.org. Stipends are available for farmers who participate!

Your farm’s experiences will be very helpful as other farms are considering or making a transition to rotational grazing.



CBF staff collect forage samples on a Virginia farm.

Maryland Events

MEETING OF THE MARYLAND GRAZERS NETWORK

The Maryland Grazers Network is planning a meeting in the Hagerstown area. This will be an informal gathering over lunch to discuss the past grazing season and talk about future 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.

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

FERTILITY AND FORAGE IN THE GRAZING DAIRY

Wednesday, May 17

11:00 a.m.–2:00 p.m.

Kauffman Organic Dairy Farm

149 Dairy Lane, Ulster, PA

Kauffman Organic Dairy Farm's success is dependent upon the cultivation, growth, and maintenance of a healthy, thriving soil. During this pasture walk, farmer Richard Kauffman will discuss his crop rotation and soil amendment regimes—including

manure and mineral applications—on both his annual ground as well as permanent pasture. Discussion of paddock layout will occur, as well. Kaufmann Farm grows all its own organic feed, including small grain, corn, and hay. To register, visit Pennsylvania Association for Sustainable Agriculture's website by clicking here.

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

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.

FUTURE HARVEST CASA FIELD DAY

Friday, April 28

10:00 a.m.–2:00 p.m.

Perennial Roots Farm

Decormis Street, Accomac

Join Future Harvest CASA at Perennial Roots Farm on Virginia's Eastern Shore to learn more about permaculture, raising specialty crops, and integrated pasture management. Perennial Roots farmers Stewart Lundy and Natalie McGill will share their experience raising vegetables, flowers, eggs, and meat for local markets. Patrick Johnson, Small Farm Outreach Agent from Virginia State University, will discuss his research utilizing permaculture in intensive vegetable productions. Participants will also learn about the farm's rotational grazing practices and engage in a hands-on barrel composting workshop. Please be prepared for hands-on work with gloves and muck boots. The educational program will be followed by a potluck lunch. Perennial Roots Farm is a 50-acre biodynamic farm raising heritage animals, vegetables, and fruits. The farm employs biodynamic and permaculture practices to increase soil fertility and raise healthy food. Practices include multi-species rotational grazing, planting cover crops and composting. [Register for the field day by clicking here to visit Future CASA's website.](#)

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

Mountains-to-Bay Grazing Alliance Partnership

UNIVERSITY OF
MARYLAND
EXTENSION

Solutions in your community



FUTURE HARVEST
Chesapeake Alliance for Sustainable Agriculture



CHESAPEAKE BAY FOUNDATION
Saving a National Treasure



This material is based upon work supported by the Natural Resources Conservation Service, U.S. Department of Agriculture, under number 69-3A75-16-038. Any opinions, findings, conclusions, or recommendations expressed in this publication are those of the authors and do not necessarily reflect the views of the U.S. Department of Agriculture.