

Special Focus - Animals on the Farm

Tree Fodder Builds Resilience (and Carbon) on the Farm

by Steve Gabriel

Our farm was first captured by the idea of tree fodder out of necessity. In 2016 our region of New York suffered a tremendous drought coupled with record high temperatures and the pastures simply stopped growing. Our neighbors were draining their ponds and driving two states over to find hay to feed animals. Members of the local Mennonite community, perhaps more versed in traditional ways, saw the writing on the wall and sold off or butchered their animals.

We decided to take a chance, and looked to the marginal edges of the farm for help. We had heard our Katahdin sheep would make use of woody materials, and noted that while the grasses and legumes looked brown and parched, the shrubs and trees in our forested hedgerows remained quite green. Looking back, we were naive in the details and didn't know much about feeding woody plants to livestock. I like to imagine our ancestors learned over centuries in the same basic way; observed a factor in the landscape, tried something, and discovered a new way to sustain life.

That year, we managed to sustain our flock of sheep on the marginal edges of forest and hedgerow for about 45 days. As we crept into September and some relief finally came from the rains, we knew that our perspective, out of necessity, had forever changed. If we were going to farm livestock, we needed to plan for the worst of times, not base our plans on assumptions that everything would be "normal." Indeed, since then, it seems like each year the climate pendulum swings from too dry and then too wet. This has a range of effects on pasture production, but the trees always seem to grow reliably.

As we learn more about tree fodder, both in research for writing the Silvopasture book, as well as our ongoing farm experiments and observations, my appreciation for the essential role tree fodder will play in sustaining livestock - and arguably ultimately humans living in cold climates - only increases with time. Let me share some more about what I have learned, and more about where we have to go to see fodder emerge as a significant contribution to a holistic grazing system.

Defining "Tree Fodder"

It's important to start out by defining what I mean by tree fodder. If you research the definition for fodder, it couldn't be more general. Wikipedia notes that fodder is, "any agricultural foodstuff used specifically to feed domesticated livestock, referring in particular to food given to the animals, rather than that which they forage for themselves." This implies at least some intentionality on the part of the farmer, but it's hard to draw a line between food "given" and food "found" - unless of course you are talking about a confined livestock feeding operation (CAFO), which I am not.

For instance, we could say the honeysuckle and buckthorn we first "found" on the property is now "given" to the sheep, as over time we've managed it as a source of feed.



Katahdin sheep browsing black locust at Wellspring Forest Farm.. Photo provided by author.

So, if you peruse the web, you might see the word fodder used for everything from grasses to ag byproducts (like soy hulls) to tree leaf material. There are also the words "feed" and "forage" and "browse" and "mast" that you might come across. They can be used in a wide range of ways, but for this article I want to define them as:

Forage: The commonly cultivated mix of "pasture" plants including grasses, legumes, and forbs that provide the basis for a grazing system

Browse: The opportunistic harvest of existing "wild" woody shrubs and trees by grazing animals

Mast: Food for livestock (or humans) coming from trees and shrubs as fruit (soft mast) or nuts and seeds (hard mast)

Fodder: Leaf material from trees and shrubs that offers nutritional and medicinal qualities

To eliminate any confusion, I have found it best to simply use the phrase "tree fodder" as the best way to describe intentional systems to cultivate leafy material for grazing animals. Just keep in mind as you read around that the terms above are used in many different ways. I don't have any

passion to try and reign them into one set of agreed upon words. What is important is that livestock feed can come from many sources in the landscape, and that we all work toward a deeper understanding of the potential.

(continued on A-4)



Goat eating in a forest. Photo provided by author.

Birding Is Booming. So Where Are the Black Birders?

Raising the profile of Black birders could help foster a healthy connection between Black communities and the natural world.

By Glenn Nelson

Tiffany Adams grew up in the Chelsea-Elliott Houses, a sprawling, low-income housing project on the west side of Manhattan. There, cookie-cutter brick buildings are separated by modest courtyards with benches and tables. Trees and grassy yards enclosed by black, wrought-iron fences dot the fringes of the project. The scant open spaces could seem confining, except to young girls with dreams of growing up to become zoologists or to tired, hungry birds navigating the Atlantic Flyway.

During her youth, Adams escaped to the natural world by watching National Geographic and the Discovery Channel. Five years ago—on a lark, so to speak—she attended a bird walk in Central Park. Looking up in the sky, she saw a world that she could not unsee, even upon returning to her housing complex. There, right outside her door, she saw an unexpected number of avian species—northern parulas, black-throated blue warblers, black-throated green warblers. She hasn't stopped looking. "Not too many people saw the value of birding in the projects," Adams says. "But when they're migrating, birds don't say, 'Oh no, those are the projects, I'm going to go to Central Park. I got to eat, I got to rest, and I got to find a mate. So whatever habitat is suitable to doing those things, I got to find it.' Ecosystems don't stop according to neighborhoods."

A lot of people don't get Tiffany Adams mostly because she's Black, and, well, everyone knows Black folks don't watch birds. Though the outdoor activity is booming in this country, birding is as White—93 percent, according to the most recent U.S. Fish and Wildlife Service survey—as the feathers of a whooping crane. The field markings of the typical American birder would be: White, female, 53 years old.

African Americans make up 13.4 percent of the U.S. population, but according to Fish and Wildlife, only 8 percent of all African Americans admit to intentionally viewing feathered creatures, making the Black birder as rare a bird as exists. One of the uncommon species, Adams now is a self-trained ornithologist who last year completed a master's

degree in urban environmental education at Antioch University in Seattle. She also has the special ability to create various species of birds out of pipe cleaners. Even so, many people refuse to take her ornithological pursuits seriously. Her bona fides still are questioned when she posts about birds on social media.

Or friends misunderstand her passion: One messaged her with a question about a sick cat. "My friends think either I'm a veterinarian or I'm doing this as a hobby, or that I'm a hippie—and I've actually been told that," Adams says. "For a while, I really felt insecure. Ultimately, I could not stop watching birds. I've learned to embrace my nerdiness."

John Robinson, a Southern Californian who has birded and advocated for Black birding for decades, has a theory about that. He calls it the "Don't Loop." It's simple: African Americans don't bird because people don't engage in activities in which they don't see people like themselves. For Black people and bird-watching, it's a self-perpetuating scarcity. Bird-watching is not ingrained in the culture the way it is for a lot of White families and doesn't get a generational handoff.

Robinson surmises that he joined this rare flock because he was comfortable growing up as the only Black kid in a Jewish neighborhood. So it wasn't a big leap for him when White friends took him out hiking and birding in college. Still, he hid his passion from Black friends who wouldn't understand and White people who might be suspicious.

It was 1979 when Robinson, then in his 20s, picked up his first pair of binoculars. "I knew I was different," says Robinson, whose book *Birding for Everyone: Encouraging People of Color to Become Birdwatchers* was published in 2008. "I felt like I didn't fit in. I felt like I needed permission." In public, he hid his binoculars inside his coat.

Few recognize this double dose of isolation better than Dudley Edmondson. He wrote and photographed a book, *Black and Brown Faces in America's Wild Places*, published in 2006, about 20 African Americans with deep connections to the natural world. One of the stories is his own. Nature, for Edmondson, provided refuge from what he calls "the trauma from my dad's alcohol-fueled rages." He also had a strong sense of being, as he put it, "an odd duck" while growing up in a Black, mostly blue-collar neighborhood in Columbus, Ohio. The kids teased Edmondson, calling him Euell Gibbons, after the celebrated outdoorsman best known for a 1974 national television commercial

for Grape Nuts cereal, which he opened by asking, "Ever eat a pine tree?"

Edmondson hadn't, and he wasn't a 63-year-old White guy, either. His tormenters simply worked with the material that was available—and that was Whiteness. Edmondson now lives in Duluth, Minnesota, where he frequently comes across strangers who know him because he's the area's "Black guy who recreates." It gives him the sensation of constantly being watched or monitored.

Not long ago, Edmondson was working on a book about Minnesota wildflowers. He was taking images of some invasive species in his own neighborhood, when a White woman challenged his motives. "You don't look like any nature photographer I've ever seen," she said.

Edmondson replied, "I'm your neighbor." "I'm calling the police," she said.

It was the first time Edmondson recognized the phenomenon "birding while Black," the close cousin to driving, barbecuing, or sitting in Starbucks while Black.

Edmondson's friend J. Drew Lanham has had a lifelong obsession with birds and describes himself as a "band geek" who played the bassoon. "I've always taken pride in being different," he says. In exchange, he earned the mantle of the Black birder. His hilarious riff on the stigmatized experience of the African American bird-watcher, "9 Rules of the Black Birdwatcher," first appeared in *Orion* magazine and later went viral as a video produced by BirdNote, a public radio series about birds.

A professor of wildlife ecology at Clemson University, Lanham, like Robinson, did not meet another Black birder until he was well into his 40s. He grew up on farmland in South Carolina, frequently encountering birds while passing between his parents' and his grandmother's houses. He liked to lie on the ground and gaze up at circling hawks. His grandmother told him they'd peck his eyes out, so when they came within 50 or so yards, he jumped up. "I liked my eyes," he says. He grew up wanting to fly, tried often, and just as often hurt himself during the attempts.

Glenn Nelson is a Japanese American journalist who founded trailposse.com to cover the intersection of race and the outdoors.

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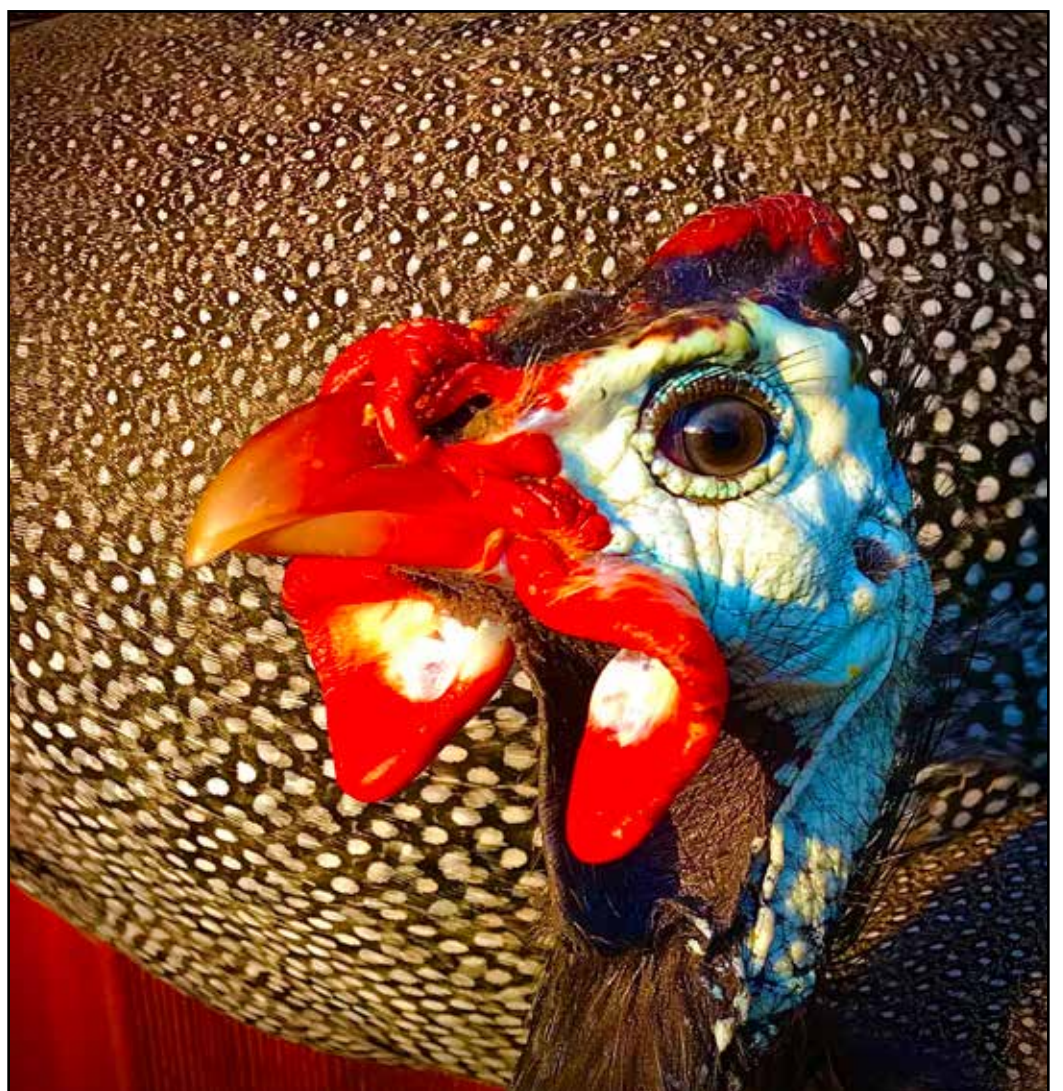
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FEATURED PHOTO: *Thelonius the Turkey* by Kristianne Gale

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(tree fodder - from A-1)

Benefits of Tree Fodder

Tree fodder will by no means replace forages but act at best as a supplemental source of food. Our initial understanding was that tree fodder offered us a resilient food source for animals, especially in extreme conditions when pasture plants are not thriving.

This is especially during times of dry or drought conditions, often exacerbated by hot temperatures that suppress the growth of the cool season grasses we rely on (at least in Northern climates).

Even better news is that tree fodders also offer an impressive buffet of nutritional benefits, including many trace minerals and nutrients not abundant in most pastures. Many tree fodders additionally express a number of “secondary compounds” that act as medicinal compounds. Tannins are some of the most promising of these, which have been shown to essentially slow down the digestion of ruminants without compromising their ability to access the food value in foraging.

Research has shown that the moderate consumption of tannins offer several positive effects for ruminants, including increased milk production, better growth of fiber, increased lambing percentage, and most notably a reduction in risk of bloat and various problems associated with internal parasites.

Tree fodder systems can also enhance a range of environmental aspects of a farm, where plantings can act as buffers to capture soil runoff and mitigate the effects of excessive water flowing over the land. Tree plantings can be buffers from the wind and snow, can increase bird and wildlife habitat, and provide shelter and early season food sources for pollinators. These benefits can convey if tree species planted for fodder are well placed after assessing the unique microclimates of a farm and placing trees in the right place for that stage of ecological succession.

While our experience with tree food came first from notable species such as willow, poplar, and black locust, we quickly realized that other plants on the farm could also be beneficial. It turns out that many of the so-called “invasive” plants that are often seen as a negative force such as honeysuckle and buckthorn, offer unique nutrients and benefits as feed. Not that we are going to plant or encourage expansion of these species, but rather we are finding that our sheep are providing a means of cost-effective vegetation control. Rather than eradicate, we are managing these and other species to restore balance and provide an even more diverse diet to our animals.

And finally, not only can tree fodders offer a feed source during the active growing season, but more are finding they are also a potent feed that can be processed and stored for winter. In forage systems, you might be familiar with the production of silage

or baleage, which is effectively harvesting grasses and legumes and wrapping or packing them in plastic to seal them off from oxygen and to store over winter. This offers some advantages over producing dry hay, which requires the weather to cooperate and for the farmer to get their timing just right. Regardless, farms utilize a combination of strategies to store grass/legume feeds as dry material or ensiled material, and the same can be done with tree leaf material and even some of the woody parts if they are young and supple enough to digest. There are several folks digging into the details of this, with Shana Hanson and 3 Streams Farm in Maine providing a lot of good resources and data on the process.

All these provide benefits to the farm, and the icing on the cake is that many excellent tree fodder species also excel at carbon capture. Faster growing trees are good for carbon and good for establishment in silvopasture since animals can be integrated with them sooner.

Next Steps: Managing quality and quantity

As part of a SARE Farmer grant, our farm spent two seasons collecting leaf fodder samples for six species on our site, three planted (willow, poplar, black locust) and three naturalized (buckthorn, honeysuckle, and wild cherry). Our results indicated that all have differing values as feed sources. It confirmed what so much of the research and experience of farmers does; there is value in feeding out tree fodder. The main issue that remains is when and how to do it to best maximize the quantity and quality of the materials.

At the core of these questions is the need to better understand the tolerance of a given tree species to grazing and its response and regrowth, to know in other words what is a sufficient rest period between harvest events. We can be pretty assured that trees

won't grow back in the timeframes outlined in rotational grazing methods (30 - 60 days in our climate) which often mean we can graze the same patch of ground three or four times a season. Likely, in cool temperate climates, tree fodder harvest is once per season, maybe twice in some circumstances.

We have a lot to learn, but can start by getting to know some species and their potential. See our grant report and resources we created from the project, including a series of recordings from a day long webinar we hosted, at www.SilvopastureBook.com under “Tree Fodder”.

Steve Gabriel is an ecologist, forest farmer, and educator living in the Finger Lakes Region of New York. Throughout his career, he has taught thousands of farmers and land managers about the ways farming and forestry can be combined as Agroforestry Extension Specialist for the Cornell Small Farm Program and by co-stewarding Wellspring Forest Farm, where alongside his family they produce mushrooms, maple syrup, pastured lamb, and nursery trees. Steve co-authored Farming the Woods with Ken Mudge in 2014, and is author of Silvopasture, released in 2018.

Resources:
wellspringforestfarm.com

Wellspring's SARE Farmer Grant; projects.sare.org/sare_project/fne19-930/

Animal Behavior with Dr. Fred Provenza | Hacked by Mr.ToKeiChun69

Tree Hay: A Forgotten Fodder | Agricolgy, agricolgy.co.uk/tree-hay-forgotten-fodder.



Getting Started:

Why aren't all livestock farms loading up on tree fodder during the growing season and for winter feed? The short answer is; 1) farmers aren't used to thinking about and valuing trees as a feed source, and 2) we don't have refined techniques to manage tree fodders like we do for pasture forages. A major point to note is that the goal is not to ever replace common pasture forage but rather to supplement it with a nutrient dense and climate resilience source of food and medicine. While there are many management questions that remain, we have enough information to get started and start to gain more experience with tree fodders while receiving some of the benefits to our livestock almost immediately. Here are some recommendations:

1. Start with known species that have a long track record as fodder -Some examples include Willow, Black Locust, Poplar, Mulberry, and Ash. Our website, wellspringforestfarm.com shares the results from three species we planted onsite and three that we found naturalized to the farm and breaks down their nutrition.
2. Look around your site for existing fodder sources and ID them - Established vegetation is a great place to start because livestock can engage with them immediately. Especially take note those “bad” or “invasive” plants - they can provide valuable food! You can also partner tree fodder goals with vegetation management, i.e. thinning and clearing.
3. When planting trees for fodder, protect them until browse height is sufficient and bark is hardened - It may not be a coincidence that many of the top tree fodder species are already quite hardy, fast growing, and respond positively, or at the very least will recover, from animal impact. When establishing new plantings, however, the trees need time to build up their reserves and be “ready” for the animals, or else they will be outright destroyed. Black Locust can grow tall enough and have a hard enough bark to resist getting their bark stripped in as little as 4 years. Others, like Alders, are prone to stripping even after 10 years.
4. Approach the work based in the bodily wisdom of your animals, so fodder is a safe part of their diet - There is a lot of fear around toxicity of plants in grazing systems, and especially with tree fodders. While there is never NO risk, most often a toxic event happens because (A) the animal is not used to foraging for their own foods (i.e. is fed rations in confinement) or (B) the animal is deficient in something and overeats a toxic plant to compensate. In our experience, our sheep have eaten many “toxic” plants, but appear to self-regulate their intake to a safe level.

Gracie

by Ben Goldberg

A ruffed grouse began showing up at the job site. I'm doing renovations to a retreat cabin up in the hilly woods of Charlemont, Mass, where it is also home to grouse. Grouse have evolved to be remarkably well camouflaged, which I interpret to mean they do not care to be seen. Therefore, it seemed unusual to me that one would unapologetically get so close as to be under foot, and clearly eyeballing us. So unusual, that for as much as we were thrilled and distracted to have this strikingly elegant bird around, it was also perplexingly in the way of our human need for making progress.

Other than mosquitoes, raccoons, and that crowd, we humans tend not to have that many personal interactions with official backwoods wildlife. When we do, and the wildlife is not trying to eat us, our garbage, or our houses, it's compelling to become captivated. So, when a wild bird, the grouse, walks out of the woods, stands at your feet and looks you in the eyes, you feel called upon to pay attention.

We know that grouse are one of the species that leads you, the big ruthless predator, away from its nest. This was my Initial thought earlier in the year when I first showed up to assess the project. But that first encounter with the grouse was a couple hundred yards further away from the job site on the two-track leading to the cabin. If the grouse was leading me away from its nest, the nest had to be quite a ways off. Besides, it felt more at the time as if the bird was not quite leading, but following along beside the truck. Or at least, that was my perception at the time.

This time, the bird intentionally came onto the job site. And come to find out, it also had been visiting a nearby house where it had somehow grown comfortable enough with the neighbors to sit on their arms and shoulders. Unusual indeed.

Or was it? I headed straight to the ruffed grouse section of the world wide web. I learned several things I did not know about these creatures. They eat seeds, insects, greenery, berries, and the occasional eft or frog. This one handily finished off the seed cluster of a honeydew. They adopt new territories. Perhaps this one was busy adopting when it showed up from different quadrants of the woods on different days, but I also learned that grouse have a six to ten acre home range. I learned as well that grouse can be domesticated for a variety of reasons, including for hunting and homestead meat production; although releasing, then hunting something you raised that had become familiar with you, seems like a level of betrayal only humans are capable of conjuring. Maybe recreational butchering is a more apt term. Nevertheless, domestication would be one way to explain its comfort around humans, and showing up at the job site.

Where I live, the Pioneer Valley of western Massachusetts, it's pretty easy to be imbued with progressive thoughts. I tried very hard not to impose groovy valley attitudes on this bird, but failed. For instance, before I learned that domestication and escape or release was a possibility, I was eager to presume that this bird was an emissary of some sort from bird-dom on an interspecies bridge building mission. I was quick to want to adopt and care for it. Feed it. See to its well being. Impose our humanity onto the "poor" thing. It was furthest from my mind that other species, owls or bobcats for example, had similar ideas, if not as evolved as I believed mine were.

I also considered that since we humans are capable of hosting a wide range of psychological and emotional variabilities, maybe also so with such as grouse. Could it be possible for this one to have an overactive nest protection instinct or something? It had a way of following behind us out of eye contact, and occasionally rushing at our feet and pecking our heels as we walked, as if to herd us along.

So, where am I going with all this? Grouse are very seriously solitary. How solitary? I learned their courtship and fulfillment of courtship lasts in the minutes. They do not have evolved social skills and

for the most part behave instinctively. It is a very human tendency to place our own social observations and behaviors onto other species. So when the thing stares you in the eye, you might presume curiosity or some other interest. But eye contact or other body language behavior means different things to different creatures, and it's generally perceived as aggressive or to establish dominance.

When it clucked and cooed at me, I thought I'd cluck and coo back. I had no idea what the grouse's cooing meant, or how mine was interpreted by the grouse, especially if it also pecked at your foot. I perceived the pecks as aggressive, but since grouse have limited communication options, or at least I've been taught to believe that, and since they are not as social as, for example herd animals, the pecks could have been a myriad of other things too. Like friendship? Maybe? I was hoping! I think anthropocentrism is a risky business. But, we are good at it. Probably better than we ought to be.

But I found myself becoming attached to its presence. I liked the interaction. It was there on its own terms, and there were no requirements for it to stay. There was, however, a requirement for me to get my work done instead of, sorry, grouching.

It, Gracie, has not been around for a few days. I have no idea if it lost interest (anthropocentrism), it's just off being a grouse on one of its six to ten acres, or is just a pile of feathers on the forest floor. But if it shows up again at work, I know my very human happy emotion will rise, and I will coo at the thing.

Ben enjoys observing the natural world, and is always available when the the natural world wishes to observe back.





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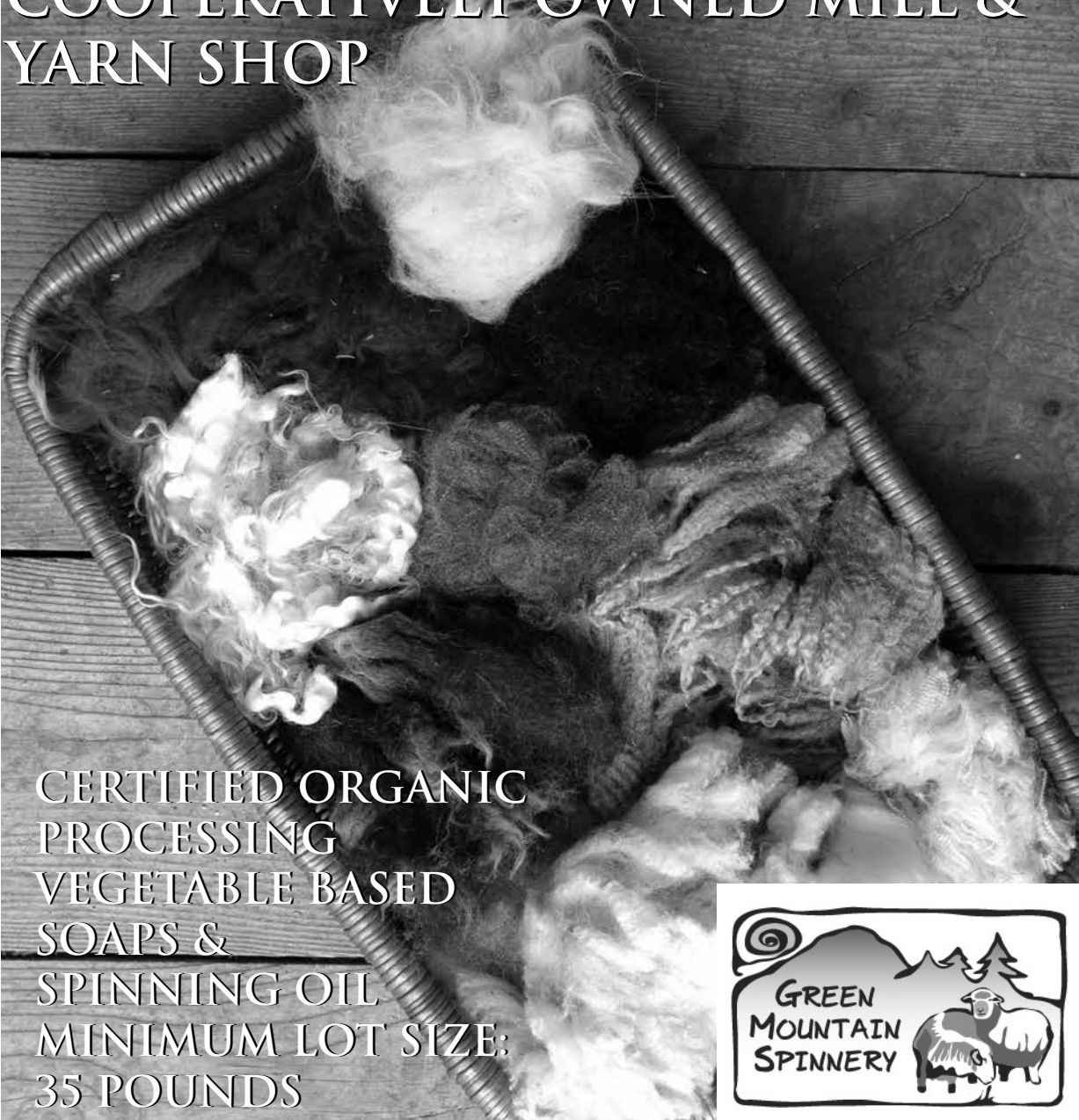
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You Don't Need More Hay You Need Better Management

by Jason Detzel

Throughout most of the winter and early spring, I entertain a variety of phone calls requesting the use of some of my ranch's fallow fields to make hay. If there is one thing that a ruminant grower can't stand, it's to see fallow fields and I can sympathize with that notion. At the front of my property, next to the road, two 20-acre parcels were taken out of row cropping systems and allowed to revert to... well, back to weeds. I guess that I shouldn't be surprised that if a mono-crop system is removed it will ultimately produce another mono-crop system. From corn and soy to mullein and goldenrod, my cattle have a difficult time finding any palatable and productive forage in this area of the farm, but converting fallow fields to production areas is for another article. The focus of this piece is to examine why these producers are out cruising around looking for more hay land.

In the spring and winter, many farmers are actively scouting for areas to grow more forage and are willing to sign contracts and make required amendments to achieve this goal, but in my personal opinion, they are going about their expansion all wrong. What if I told you there was an easier way to cut your feed costs?

Working ground, baling forage, and transporting hay requires massive inputs of time and money. Through an in-depth financial analysis, we have found that most ranchers are selling their hay and baleage for less than it cost to make it, and when you tack on the extra cost of fertilizer and transportation the numbers quickly become even more unfavorable.

The way to combat this is to simply rely less on stored forages. Any producer who is primarily feeding grass should be working with what they already have to both improve the quality of their sward and to lengthen their grazing season. Instead of sitting on the tractor and moving hay around all summer, why not work on your grazing plan or figure out which pastures to stockpile for late fall and early winter feeding?

The way to lessen your reliance on stored forages and lower your feed costs is to extend your grazing season. This extended season is directly correlated to fewer days of feeding stored forages, less time and money spent on harvesting, and overall improved animal health.

Look at your animals--they were born to eat! Ruminants have developed specialized cutting tools to harvest grasses, four-wheel drive capabilities to get into places impossible for mowers, and efficient fermentation tanks to break down plants into usable food. Why would we handicap them and ourselves by thinking that we could do a better job of feeding than they could themselves?

My point is simple. Review your grazing plan and start rotating animals to allow your pastures to rest and grow back strong. Let the cow be the cow that it is and use its natural ability to harvest the standing feed that you put aside during the productive season. By developing your pastures to be more productive, by selectively harvesting and resting areas, most growers could double the amount of forage that they have on their property without having to look for additional acreage to manage.

These techniques are not new, nor are they simple. Developing your grazer's eye takes a lot of time and observation. The best way for you to begin to think about these systems is to get together with other like-minded individuals and to tour other ranches that are utilizing this approach. I quit making hay seven years ago and would never go back. Want to learn more? Get in touch!

Jason deals with all things great and small in Hudson, NY and can be reached at jasondetzel@gmail.com.



Kestrel Nest Boxes: A Source of Reverence and Beauty

by Johanna Jackson

I was kneeling near rhubarb, pulling out thistles, when my neighbor Gerald walked up. It was April 2020: pandemic week three. We needed to weed, transplant, hoe, drip tape, and irrigate – as well as plan for the breakdown of civilization.

“Want to come up the hill?” Gerald called. Jon Kaufman, a local birder, walked with him. A visit from Jon Kauffman was like a small vacation. He had once shown me how to find nighthawks at dusk. I dropped my work, shivering, and stood up.

Jon's beard was grayer than I remembered. He carried a long orange pole in one hand. “It's April,” he said, “and you're wearing a winter jacket and snow pants.”

Rain pants, I thought reflexively. A storm had passed by the day before, bringing in cold air. I asked him what the pole was for.

“Checking nest boxes.” He motioned toward it with his chin. “A camera goes on that end.”

We trotted up the hill, keeping a six-foot distance. (We hadn't learned, yet, that breathing outside was fairly safe.) Gerald loped ahead and unlatched a gate for us. “Be careful with the chain on this one,” he warned, pointing to the electric fence. “The wires might be hot.” Jon and I hesitated. New to social distancing, we danced around each other and the fence. In the awkwardness, I snagged my rain coat on the wire and got another tear.

Beyond us, 15 feet in the air, a bird box stuck out from the fence line. We gathered loosely below it. “Hope it's not a starling in there,” Jon said. He strapped his phone to the pole and lifted it to the sky.



The Cornell Lab of Ornithology records this mother kestrel through its web cam, posted inside of a nest box. Photo from The Cornell Lab of Ornithology. Live footage at AllAboutBirds.org/cams.

The entrance to the bird box was three inches wide; Jon's phone was at least that large. It was going to be a tight fit. He shifted his footing and barely slid the camera inside. He brought the phone back down and studied it.

Jon sounded glum. “Yup, it's a starling,” he muttered. “Too bad. She'll be persistent.” We had been hoping for kestrels, a natural predator in our area. Kestrels eat mice, voles, grasshoppers, and cicadas. They're helpful to have on a farm. They're also quite beautiful: kestrels have the angular wings of a falcon with a streak of black along their eyes. Starlings, imported from Europe, kick out native birds from their nests. “We'd better take it out,” Jon said. Gerald, tallest among us, yanked at the base of the nest box. It was too heavy, though. The pole fell back to the ground with a thud. It looked like an awkward job for one person, but Jon and I couldn't help without breathing on him.

“I suppose you might just –”

“What if I –”

“Maybe you could try to –”

Gerald looked up, and jumped on top of the nearest fence post. He balanced his six-foot-three frame on a post smaller than a frisbee. His feet were mashed together; I did not envy his footing.

The wind started to pick up. The box began to wobble. I wondered if it would –

“How do you feel about catching it?” Gerald called, looking at Jon. Jon planted his feet apart, making his arms into a basket. Gerald rotated the pole left and right, but couldn't yank it free. I realized that we may have to get the bird out another way.

“There should be a nail on your right hand side,” Jon suggested. Gerald reached around back. “No, not that one – the other one.” He pawed around blindly. “Right there. That part opens up,” Jon said, shielding his eyes. I could see a hinge near Gerald's hand. The back hatch was about three inches from his face.



These young chicks huddle together for warmth during a cold spring morning. Baby birds are born with a light coat of white down. By the first or second day of life, their eyes open partially. Photo courtesy of Jon Kauffman.

“And is there – is there a starling inside?” Gerald asked. I had been wondering this myself. “Nah, she's out for now,” Jon said. Gerald was relieved, though his face barely changed. He plucked the nail out with one hand, and big puffs of straw came billowing down.

A big, scrappy nest landed near my feet. Gerald hopped down from his post, satisfied. The nest box was now ready for kestrels. Jon suggested that we return here with wood chips. “That'll keep the eggs from rolling around,” he explained.

Jon, who worked at a nature center nearby, has visited dozens of farms and has set up nest boxes on many of them. He and another birder have hoisted up 100 boxes over time. As we walked down the hill, I asked him about this work. Jon pointed east along the valley. “There's a nest box over on the Peachey Farm,” he said, marking a mile away. “Right over there.” I squinted. All I could see was grass.

Later, after Jon had headed home, Gerald and I carried hoes to the onion patch. We were hoping to break up a thick crust formed by recent rain. We worked in a rhythm. As I was navigating a small onion tangle, Gerald paused and looked up. I followed his gaze: two shapes drifted above us in the sky.

“Look at that,” Gerald said. “Kestrels.”

They flapped in the air. Small falcons, silent and beautiful. I could see the curve of their wings and a flash of pale belly against the sun. We watched them careen. It was a beautiful, sacred moment. I smiled.

The birds passed by. They followed the creek, heading west. We returned to the soil, crumbling its crust. We hoped next year, maybe they would fly home to stay.

Resources:

To learn about starting nest boxes, visit the Peregrine Fund, kestrel.peregrinefund.org/nest-monitoring. To watch young kestrels, visit the Cornell Lab of Ornithology's American Kestrel Cam Timeline.

Johanna Jackson (she) is a former environmental educator who works on a farm in Central PA. Her writing is available at forwardinfaithfulness.org/portfolio.





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Makin' Bacon

by Mary-Howell and Klaas Martens

Nearly 30 years ago, we were sitting down to a May Sunday breakfast when a pickup truck drove in the driveway. The man said he'd found a piglet in his lake cottage garage and would we take it? Sure enough, there in the back of his truck was a bright-eyed, round, hungry 30-lb feeder pig and who knew where it came from?

Few people back into raising pigs with less preparation and more innocence than we did.

After all, this was before YouTube, Google and today's plethora of small market farms. But on that May morning, there was the piglet looking up at us eagerly, so we said yes, why not?

We took that little guy down to the abandoned milkhouse in the old dairy barn, found some corn and kitchen scraps, and a pail of water, and fastened a stout pallet across the door. Then, because pigs are social animals and are much happier with company, we purchased two more feeder pigs at the livestock auction, and voila, we were in the pig business.

Spilled grain, seed cleanings, kitchen scraps, garden weeds, grass clippings, drop apples, stale bread, and a little purchased pig feed - it proved remarkably easy to provide a daily feast for the pigs on the farm that summer. Taking feed down to the pigs became an anticipated pleasure, because no other farm animal is as responsive, interactive, playful, so utterly filled with 'personality'.

By fall, the three pigs were nearly 250 lbs, crowded in the milkhouse, and ready for butchering - it only takes 4-6 months to finish a feeder pig. Somehow, in one summer, we had produced A LOT of meat without hardly even trying!

We learned later that the first year was a bit of beginner's luck; it isn't always that easy, but it sure did get us hooked. What can possibly beat going into the winter with a freezer full of your own bacon, sausage, pork chops and hams? Now, nearly 30 years later, we still have pigs.

Pigs on the backyard scale - amazingly enough - may actually be possible unless you live in an apartment or an upscale suburb. Yes indeed - even you could raise a pig this summer!

THE NATURE OF A PIG

Pigs are smart - this is no dumb cluck or wooly-headed ewe you're dealing with, a pig's intelligence is not much different from yours. They just think about other things. Food, basic house de-struction, and socializing occupy most of that brain activity.

Therefore, keep this in mind - while you are at work or in the house, they will get bored and will rearrange the furniture. Troughs, water buckets, fences and gates must be well-planned and built/attached to withstand this determination and strength.

Pigs are social - solitary confinement is considered the most punitive punishment for people, and pigs are not much different. They prefer company, especially of other pigs. If you have a facility to raise one, it isn't much more trouble to raise two, and far kinder.

Your family and neighbors will appreciate the meat.

Pigs can't sweat, and they sunburn easily - pigs do fine in cold weather, but heat and direct summer sun can be a problem. Make sure pigs have shelter against sun, and always have drinking water. Don't be surprised if they build a muddy 'wallow' in their pen, if they can. This is nature's way of providing a cooler place for an animal that can't sweat. Pigs are strong, slippery, and big - you are not going to be able to pick the pig up for long, it isn't easy to collar or rope a pig, so moving and containing the animal will need finesse and planning. You may be surprised how hard it is to get the pig on the truck to go to the butcher!



Pigs at Lakeview Organic Grain, photo from lakevieworganicgrain.com

Pigs are clean - despite their reputation, pigs will pick one corner of their pen for their bathroom, generally opposite from where they sleep and eat, so plan accordingly and allow enough space for this. Pigs also make a lot of manure and urine, and if they go outside, this will mix with mud and rain and turn to knee-deep slop. Plan their living space to allow for cleanup and management of this.

Pigs hate electricity - while it takes a substantial fence to contain pigs, a little electricity goes a long way. No fur and a broad moist snout gives plenty of space for shocks. A few strands of hot poly-wire will contain even a large pig that has been trained, but some pigs are smart enough to defeat electricity by plowing soil up on the lower wire.

Pigs don't graze, they 'pigerate' - while a pig on pasture is a glorious sight, their joy and enthusiasm is infectious, their nature is to burrow and turn the soil, not to gently graze. That makes pigs an ideal clearing tool - they will clear underbrush and weeds rapidly, but they are very hard on a pasture. Tight rotational grazing is a must unless you want your pasture plowed.

FEEDING PIGS

Despite their reputation, today's pigs do require fairly careful attention to nutrition. Of course you can feed pigs food scraps, garden trash, drop apples and even restaurant waste, and pigs will eagerly forage on pasture, but that alone may not be sufficient for healthy growth in modern pigs.

Heritage breeds will do better on lower-quality feeds, they will grow more slowly and not reach the same final size, but will be healthy. However, modern pig breeding has selected for a fast growth type that requires the available nutrients generally obtained in a ground grain feed with added swine minerals.

Traditionally pigs were fed a wet feed or slop, with grains and food scraps mixed with sour milk, whey or water, and that does result in less waste, but wet-feeding is not practical for everyone.

Pigs require the basic nutritional building blocks - protein, carbohydrates, and fat, along with sufficient vitamins and minerals, and that is most easily obtained in a balanced grain-based pig feed that is liberally supplemented with salvage and pasture. Carbohydrates or starches are found in all grains, but especially corn and small grains. Starches are also found in most food wastes. We know one friend who works in an Italian restaurant who brings home cooked pasta and plate scrapings each night in 5 gallon pails. The pigs love this - but cold pasta and tomato sauce alone does not make for a balanced diet, since it is usually too low in protein.

Protein is found in seeds of legumes, such as peas

and soybeans, and in some other grains such as flax and sunflower. A good balanced pig grower feed is generally about 15-17% protein, and uses a significant amount of protein grains. Meat byproducts and waste, or milk/whey are also great pig protein sources if you have access to them. Pigs need a higher level of lysine than other meat animals. Lysine is an amino acid found in animal protein and some grains such as barley, but is deficient in most grains.

Unless you are feeding meat or milk waste, you will probably need to make sure that the swine mineral mix in your pig feed contains sufficient lysine.

Vitamin and mineral deficiencies show up quickly in pigs because they grow so fast. These are easiest obtained in a balanced form in a good swine mineral mix, but they can also get tasty and valuable vitamins and minerals in pasture, waste vegetables, weeds, and fruit, and an occasional bale of delicious - and SO much fun to play with - hay.

HOUSING PIGS

Perhaps the best way to identify key factors of pig housing is to learn from some of our experiences.

1. First attempt - unused milk house on the old dairy barn with a pallet fastened across door.

PROs - cement floor & cement walls (so pigs can't dig under), about 10 ft x 12 ft sheltered space with reasonably good ventilation.

CONs - no outdoor access, hard to get in to feed and water, hard to clean out manure, too snug for 3 adult full-size pigs.

2. Second attempt - milkhouse open to poly-wired section of dry stream and scrubby woods.

PROs - more space, outdoor access, feeding and watering outside easier except in rain, most manure deposited outside, useful clearing of scrubby hard-to-maintain area and great 'expression of pig nature' rooting in woods.

CONs - the poly-wire in weedy/wet areas shorted out and didn't contain the pigs well resulting in repeated jailbreaks. It is amazingly difficult to catch, handle and load pigs. Concerns about water quality in streams and erosion where heavy pig rooting occurred.

3. Third attempt - poured cement pad outside milkhouse with frost-free dug-in waterer, steel hog panels defining and securing outdoor areas.

PROs - much more orderly handling, easy feeding and year-round watering, sufficient outdoor space but no more jailbreaks, manure cleanup with loader, can drive livestock trailer up to pen and easily load pigs. With the frost-free waterer, this is now 4-season and large enough to allow partitioning for a deep-bedded farrowing/co-mothering area for several sows and litters.

(continued on B-11)

Lessons from a Vegan Animal Sanctuary

by H.e. Haugenes, they/them

I took an internship at a vegan animal sanctuary, thinking I could learn to raise animals in harmony with the land, without the production focus I'd get at a livestock operation. However, after just two weeks, I cut my commitment short. I had never done something like that before, but this so-called "sanctuary" didn't feel like the sacred place of refuge I hoped it would. It left me longing for the regenerative farming community.

Before going to the sanctuary, I had this dream that my future vegetable farm would be home to a small number of rescued sheep, cows, chickens and goats that would serve ecological functions on the farm, be fun companions, and help our compost thrive. I had been vegan for seven years, and wasn't interested in breeding animals or raising them for meat. I set out to the sanctuary full of hope that I'd find the ecological paradise I sought, and found my dreams quickly crushed.

I had studied ecology in college, and am constantly awed by the way all creatures play a role in nature's harmony. However, I was overwhelmed by how ecologically disconnected the sanctuary was. More than anything else, the place reminded me of a zoo - overgrazed permanent enclosures, caged-in waterfowl with no more than a mucky shared 50-gallon trough to swim in, huge amounts of hay, straw, and food trucked in, and huge amounts of shit scooped out. As I walked around the dusty lifeless yard, I should have taken the lack of any plants as my first sign that it wasn't right for me. The land was warning me.

Prior to starting the internship, I had been working at a biodynamic farm in a vibrant regenerative cattle grazing community. The land was luscious, and I learned about the many benefits of the hard work these farmers did with their herds, not only to turn a profit but also to steward the land. At the sanctuary,

I kept finding myself thinking back to the methods used in those livestock operations, and wondering if the vegans running the sanctuary even dared to engage with such concepts.



Friendly goats. Photo provided by author.

At the sanctuary they completely neglected ecology. The staff seemed to be constantly stressed to provide care, juggling disease and frankly too many animals. I was stunned to hear that the general opinion of the community there was that it is exploitative for people to use manure for soil health (even from the sanctuary). They dumped roughly 1,500 cubic feet of manure and soiled straw in an unmanaged pile weekly, which came from not only sheds and coops, but also from the pastures! Daily, I was told to go into pastures, strapped up with buckets and shovels, to hunt down cow patties and horse dung (which I'll be honest, I refused to do). This struck me as a grave disrespect to the animals and the land. Manure serves a function to the soil, but I found that the vegans at this sanctuary considered animals serving any function, even an ecological one, to be exploitation!

I saw things differently. To me, rejecting the benefits

of manure was a disrespect to both the animal and the earth. While of course chicken coops and animal sheds need to be cleaned, manure should not need to be picked out of pastures so religiously. It should integrate into pastures, providing microbial abundance and nourishing the earth.

Rather than overcrowding ever-growing numbers of animals into fixed pens for the sake of saviourism, sanctuaries should center ecological harmony. They can start by taking note of the work of regenerative livestock operations. Through rotational grazing, animals can continually have fresh and diverse plants to forage, the earth can sequester carbon, biodiversity is bolstered, inputs are reduced, and disease is lowered, amongst other benefits. Different species rotating through the same pastures also reduces disease. For example, chickens eat maggots laid in cow patties, limiting parasites. Ecology benefits everyone.

Humans have removed themselves so much from the natural world; to do the same to animals is not freedom as animal rights advocates seem to suggest. Looking around the sanctuary, I found myself wondering, Do these animals fear their own deaths as much as these humans do? Do they want to be in these tiny enclosures? Do they want to be kept alive into old age by the pharmaceutical industry? Why do these humans seem so unhappy? Imposing the human obsession with longevity on animals is not freedom. Rather it means honoring that each animal belongs to the earth, and will return to the soil.

I believe vegan animal sanctuaries can intentionally shift to ecologically minded models and honor relationships between different animal species and the land. I wonder, can we build true sanctuaries for animals that look more like ecological landscapes than glorified zoos?

H.e. Haugenes is a vegetable farming apprentice at Glynwood Farm in Cold Spring, NY, and is also a multidisciplinary artist who can be found on social media @waterb.ug.



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Farm 2 Facts: An Ecosystem Service Tool to Track and Communicate Environmental Benefits on the Farm

by Catie DeMets (photos and quotes by Nadia Alber)



Jacob sheep grazing at Ducks in a Row Family Farm in southwestern WI, photo by Nadia Alber

Looking out over lush, green pasture in southwestern Wisconsin, Ducks in a Row Family Farm buzzes with life and the season's activities. To onlookers, it's clear the farm's owners, Nadia Alber and Chad Backes, work hard to ensure their farm benefits their local community.

But there is even more to the farm than meets the eye. Alber and Backes have introduced a wealth of practices to foster a healthy natural environment and generate ecological benefits. Ducks in a Row Family Farm features management-intensive rotational grazing, creating a sustainable home for diverse livestock grazing on healthy pasture. Below the ground, the soil teems with life, absorbing nutrients and carbon and storing them safely under our feet.

How can we, as a society, value this kind of agriculture beyond just the cost of the produce? This question has long stymied us because it requires a shift from the single-minded, economic mentality of short-term growth and efficiency to a broader valuation of long-term sustainability and resilience. And, it requires producers to track their practices—a tall order for folks juggling a full season's activities, even more so for beginning farmers who are, as one farmer described, “dealing with the realities on the ground of getting products out of the field to customers.”

But here's the rub: without measuring and tracking those practices, it's hard to communicate or market a farm's environmental impacts. This is especially true for small, diversified farms like Ducks in a Row, for whom agricultural carbon markets aren't a good fit. What's more, many such operations often aim to do much more for natural ecosystems than just sequester carbon. These kinds of holistic practices can be tricky to measure and communicate because of their complex and intertwined impacts.

This is where Farm 2 Facts comes in. Farm 2 Facts is a nonprofit at the University of Wisconsin-Madison that helps farmers and farmers markets succeed by collecting meaningful data that can be used to tell their stories of community and economic impacts. We've been working closely with producers like Alber and other experts across the U.S. to create a streamlined new Ecosystem Services tool that collects data about a farm's environmental impacts, including the ways they're working to reduce climate change.

The Ecosystem Services tool translates data into customizable marketing materials that direct-market producers can use to tell the story of how their practices benefit the natural environment while feeding our communities. Through a 15-minute assessment, the tool asks producers about six key areas of practice: soil health, biodiversity, livestock, infrastructure, alternative power, and transportation. Producers can track their responses from year to year to benchmark and build on their improvements.

Alber, who has collaborated on the tool's development, described her journey to running a grass-based livestock operation as being motivated by her interest in protecting the environment: “I did not grow up on a farm, but I played in the garden countless hours as a kid.

In college and beyond I just knew I wanted to ‘save the world’ or at least be environmentally friendly so the world that I was living in was not going down the tubes. I thought if I were a conservation biologist, a park ranger, or a science teacher I could make the most impact – and then I realized that not much of the US is park land or prime wilderness but farmland. If I was going to have influence, I better understand farming and better yet, sustainable farming practices.

“After working or interning on organic vegetable and pasture-based livestock farms, I decided that I wanted to go to graduate school and learn more about management-intensive rotational grazing and its effect on the soil, pasture grasses, livestock, and humans. I studied in Dr. Randy Jackson's Grassland Ecology Lab [at the University of Wisconsin-Madison] and now I am the Director of the WI School for Beginning Dairy and Livestock Farmers – as well as co-owner of a small grass-based livestock operation in Iowa County.”

As Alber pointed out, her interest in local agriculture is not just local; agriculture has global ramifications for environmental sustainability: “When people talk about Ecosystem Services, they really mean the environmental impacts of agriculture. We are farming and I am teaching farmers in the Midwest – agricultural land around here is all along



Namesake “ducks in a row” at home in the pasture at Ducks in a Row Family Farm, photo by Nadia Alber.

the Mississippi River, the major watershed that runs into the Gulf of Mexico. If you want to talk about impacts on the whole nation, you can talk about runoff into the Gulf, hypoxia, and fishermen struggling to make a living because farming the sea does not work without shrimp and fish to catch. What we do in the bread belt affects their livelihood.”

She continued, “To make a long story short, the externalities of agricultural production are important. What about the air we breathe and the water we drink everyday – could we live without these things? What about the soil that we grow our vegetables in, our corn and beans for livestock feed, and our hay crops to feed our sheep? What if the air became polluted with chemicals, the water was non potable, and the soil was infertile? Who will pay the farmers to keep these ecosystem services functioning?”

In response to such critical questions, the Ecosystem Services Tool through Farm 2 Facts provides a vital window into the many positive environmental impacts and hard work of sustainable farming that so often go unacknowledged. Indeed, one of the tool's main purposes is to support farmers in communicating and marketing their positive ecosystem services to their consumers. The Ecosystem Services tool is now available to all, free of cost, in English and Spanish.

(continued on next page)



FEATURED PHOTO: First of the year, by Jason Welch

(pigs - from B-8)

CONs - the pigs have good outdoor access, but this would not meet USDA organic requirements because there is no actual soil access. No longer adjacent to sufficient pasture area for adequate rotation grazing.

In planning a facility, all of these factors matter. Because we raise heritage breeds that have enough wild in them to make it feasible they could adapt as feral pigs, it is very important we contain them in a way that prevents escape - wild boar is not something to take lightly. We now compromise by carrying the greens to the pigs, rather than letting them forage. It is all part of being both a good pig servant and an environmental steward - and being practical because, amazingly enough, we are now 30 years older than when we started this pig experiment!

To certify or not to certify? That decision is both practical and philosophical, but not always for the reasons you might guess.

We have been organic farmers for over 25 years. We feed our pigs organic feed, and handle them mostly according to the USDA National Organic Standards requirements, but we don't certify them. Our market knows what we are doing, they want healthy, slow-raised, low-stress heritage pigs fed simple ingredients, and to them, organic certification would not add extra value.

However, there is another important reason. Certifying the pigs would rule out many of the goodies they so enjoy, like drop apples, pails full of tomato peelings, that casserole that got old in the refrigerator, weeds from the garden, broken eggs, because we do not certify our orchard, our laying hens or the garden.

We definitely do feed them organic feed to avoid pesticides, antibiotics and GMOs and because we know it is made from high-quality, well-balanced organic ingredients. But we don't want to deny them their juicy apples!

BUTCHERING PIGS

No matter how much we talk about how cute, smart, playful, and companionable pigs are, it is important to always remember you are raising meat.

This is not a new pet. You will give this animal the very best quality of life possible. You will be their servant, faithfully providing food and water. You will scoop smelly manure and spread dry straw. You will respectfully tend to their comfort and safety. When it is raining, or snowing, or when you are sick, tired, or want to go on vacation, you will still be responsible for being their servant.

Then you will eat them.

It is very important that you and your family go into the pig business with this firmly in mind because no other farm animal will challenge that perspective as much. To me, taking full responsibility for an animal's quality-of-life and well-being, taking responsibility for being a faithful servant, is critical to earning the privilege of bacon and pork chops.

If you don't think you can do this, then don't get a pig.

Mary-Howell and Klaas Martens run Lakeview Organic Grain in Penn Yan, NY.



(Farm2Facts - from B-10)

Farm 2 Facts also offers a comprehensive suite of reporting metrics suitable for farmers markets looking to use data to more effectively market their story to their community and complete grant applications and reports. With the Ecosystem Services tool, Farm 2 Facts member markets can aggregate their vendors' responses to showcase their markets' collective positive environmental impacts. Through this, the tool aims to raise awareness and connect farmers and consumers around their shared goals to support a collective movement towards environmentally beneficial practices. Ultimately, the tool's aim is collective empowerment, which Alber aptly articulates: for "farmers and their customers to realize the potential they have to do good in their world - to keep the planet a healthy place for all of us to live and for all living creatures on it."

We thank all the hardworking producers for the myriad ways your agricultural operations are benefiting natural ecosystems. We are honored to help you communicate these vital impacts.

Catie DeMets is in the doctoral program studying food system transformation in the Department of Planning and Landscape Architecture at the University of Wisconsin-Madison. Nadia Alber co-owns a small grass-based livestock operation in southwestern Wisconsin and is the Director of the Wisconsin School for Beginning Dairy and Livestock Farmers.

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FEATURED PHOTO: Angora goat doeling, Spring 2022 kidding. Photo by Lisa Ferguson, Laughing Goat Fiber Farm, Ithaca, NY

NYS and the Climate Emergency – How Our Response to Disaster Can Benefit Organic Farming

by Elizabeth Henderson

In 2019, a large and very determined coalition of organizations pushed an urgent piece of legislation through the New York state legislature – The Climate Leadership and Community Protection Act (CLCPA). This long and complex bill set up a Climate Action Council (CAC) empowered to conduct a planning process to get the state off of fossil fuels almost completely by 2050, while targeting at least 35% of investments to those disadvantaged by the current system. The CAC appointed a series of panels to make recommendations on specific aspects of the plan, including Agriculture and Forestry. They also appointed a Just Transition Working Group to prevent workers from being discarded as the economy changes, and a Climate Justice Working Group charged with defining disadvantaged communities and with representing the point of view of the disadvantaged in critiquing the work of the other panels.

The NOFA-NY policy committee worked hard on our comments. Writing comments – how boring, you might think. Please think again! The process we have used has allowed many NOFA members to collaborate on articulating our vision for the future of farming in our state and what we can achieve through state policy. Led by Katie Baildon, NOFA-NY Policy Coordinator, we used a Google doc as a forum to conduct a three-month discussion on our top priorities. The final document is 28 pages long, plus a few pages that summarize the top six points, so we will not include the full comments here. Instead, I offer a summary of the top points that I had the opportunity to present to our policy allies. I gratefully acknowledge that many people contributed to this analysis! This is hive mind at its best!

Together we face a climate emergency. The members of NOFA-NY passed a resolution in February, 2022, calling upon the state and federal governments to declare a national Climate Emergency to communicate the urgency of the climate crisis. The CLCPA process gives us the opportunity to take strong actions in the hope that it is not too late.

Two overall comments:

First, when you are digging yourself into a hole, the first thing to do is STOP. The Plan needs to require a swift halt to greenhouse gas emissions, starting with a ban on new fossil fuel uses, infrastructure, and pipelines, and a timeline for each existing fossil fuel facility (including nuclear power plants) in the state to be rapidly phased out.

Second, the CLCPA established a goal of providing 35% of the “new” climate funding to benefit disadvantaged communities. But that is not enough, since the Climate Justice Working Group has determined that at least 50% of the state’s residents meet the definition of being disadvantaged.

Turning to the Scoping Plan, we hope that you will join NOFA-NY and our allies in commenting on the recommendations from the Ag. and Forestry Panel – which are limited to making small tweaks in existing systems of industrial-scale farming enterprises with the rationalization that you can do more to reduce GHG emissions through small improvements on big-acreage produce and grain farms and the largest CAFOs. However, adding good practices to a bad system does not result in long-term solutions. When you include out-of-state production of synthetic nitrogen fertilizers in the greenhouse gas inventory of NY farms, it becomes clear how much higher the emissions from conventional agriculture really are than the Scoping Plan estimate, and what to target for change.

counting, including environmental and also social costs, we can take this opportunity to initiate the transformation of NYS agriculture to strengthen the economic, social and environmental viability of family-scale farming and increase social justice and racial equity.

The plan should call for legislation for investments in certified organic and agroecological farms with the goal to convert 25% of NY farmland to organic by 2030 through massively scaled-up technical assistance programs, tax subsidies, and grant funding. The Climate Justice Working Group recommends funding and programs for farms to transition to organic systems and also recommends a tax on fertilizers that could fund this transformation.

Please note that organic farms do not use synthetic nitrogen fertilizers which are derived from natural gas. Research shows that organic farming increases soil carbon levels, soil stability and fertility, on-farm biodiversity, and crop resilience, and reduces energy use by at least 30% through reduced tractor usage, reduced on-farm emissions, and avoidance of synthetic nitrogen fertilizers. By design, organic agriculture builds resilience into the system of food production. A recent report from the Organic Farm Research Foundation states: “The survey results confirm that organic producers lead the nation in adoption of resource and climate stewardship practices and corroborate earlier findings that organic systems can enhance resilience, carbon sequestration, and GHG mitigation.” (Schonbeck et al., 2018).

The CLCPA includes a strong mandate for permanence. However, in biological systems the only permanent thing is change. When farms are going out of business, practices like adding covers and flares to manure pits are no more or less permanent

When we make policy grounded in Full Cost Ac-

(continued on next page)

(climate - from B-12)

than increasing the use of cover crops and composting. In 2009, there were 5,475 dairy farmers in NYS averaging \$314.5 thousand in gross income per year; in 2019, that number had dropped to 3,893 dairy farmers with average income of \$741.3 thousand. (New York State Dairy Statistics). To ensure that improvements to soil health endure for the foreseeable future and that public investments will be worthwhile, the farmers of this state need to join with all land managers in a culture of soil care with public recognition and support for the many ecosystem services soil health provides: increased soil carbon, reduced net greenhouse gas emissions, improved water quality and water use conservation, improved crop yields, nutrient density and shelf-life, and greater farm resilience in the face of the accelerating climate emergency. A culture of soil care means that farmers, their customers, and our policy makers value soil as a paramount resource.

Along with a goal for converting to organic farming, the plan should set statewide soil health goals to track progress, increase accountability, and ensure the permanence of soil-sequestered carbon.

All agriculture and forestry projects that receive public funding must be required to qualify by using soil health practices as defined in the NYS Agriculture and Markets Law as amended by the 2022 Soil Health and Climate Resiliency Act that was passed unanimously in both houses.

The plan must address inequities and barriers to success in farming that result from the systemic racism that pervades our society. In Commissioner Richard Ball's letter introducing the 2021 Diversity and Racial Equity Working Group Report, he underscored the NYS Department of Agriculture's commitment to building a "stronger, more resilient, and more equitable agricultural community in New York State." This plan must do more to enable NYS-DAM to actualize this commitment. At least 40% of all funds expended by the state under this plan must be invested in underserved communities. Members of all underserved communities must be represented and able to participate in the design and implementation of all new initiatives. See *The Black Farmers United NYS Platform* for their demands.

Climate justice and racial justice are mutually reinforcing – to reduce GHG emissions in agriculture, NYS must turn more of the land over to Native American, Black and other farmers of color. Agroecological systems originated in indigenous cultures, including Native American, Asian and African. These systems must be coupled with optimal use of the latest social and technological innovations to bring greater health to both the farmers and workers who produce food and the eaters who benefit from fresh, local, nutrient-dense food grown in healthy soils.

To make it economically feasible for organic and agroecological farms to survive in the highly concentrated marketplace where farmers are usually price takers, NYS must implement a Payment for Ecosystems Service program that provides income to farmers who regenerate soil while producing

Black Farmers United NYS Platform

- Create opportunities for Black farmworkers to become business owners,
- Fund black farm and food start ups,
- Supply 1,490 acres of affordable land for farmers of color through the Northeast Farmers of Color Land Trust
- Provide exceptional education delivered by experienced black farmers that compensates the farmers for this service,
- Support urban farms by easing access to land in cities,
- Commit to inclusion of farmers of color in agricultural programs starting with Farmland for a New Generation,
- Award full scholarships to SUNY for agricultural degrees for Black people,
- Capture and provide meaningful data on the needs and locations of Black farmers.

food, fiber, building materials, and medicine. A PES would compensate farmers for the many interrelated and essential ecosystem services that their farms provide and that result in positive outcomes for the climate. There is no agreement yet on how to measure, monitor, and verify increases in soil carbon. To ensure more than minimal performance of incentivized practices, we recommend payments to farmers based on outcomes: lower temperatures that result from soil that is covered instead of bare, minimizing leaching of minerals into waterways, reducing odors, cleaner air, shade from trees, the agritourism value of the beauty of a diverse working landscape. Cleaner water, cleaner air, and increased tourism are all verifiable. The degree of soil coverage can be measured from satellite images. Diversifying a farm's landscape makes a big difference in ecosystem services. Trees/windbreaks/ponds etc. reduce temperatures, slow winds, filter/infiltrate water, and mitigate climate extremes. Increasing cover cropping and double cropping has a big impact on soil carbon but also on crop yields and quality.

To ensure that NY farms of all sizes can reach economic viability, purchases for state institutions must be in alignment with the standards of the Good Food Purchasing Program that provides a comprehensive set of tools, technical support, and resources to support public institutions shifting to a values-based procurement model. It centers five food system values in equal measure – local economies, animal welfare, environmental sustainability, nutrition, and valued workforce. The program simultaneously aims to hold large vendors accountable to better practices and to increase opportunities for small and historically marginalized vendors and organic farms to contract with public agencies. Public institutions in NYC and Buffalo are already participating.

To qualify to sell to institutions, farms will need state assistance in meeting the stringent and paperwork heavy requirements of the Food Safety Modernization Act (FSMA).

And finally, it is time to end public funding for the liquid manure handling systems that make really large concentrated animal feeding operations (CAFOs) possible. In 2017 out of over 4600 dairy farms in New York, only 561 farms had herd sizes over 200 milk cows and only 142 farms had herd sizes over 1000 milk cows. Just 12% of New York dairies account for nearly 70% of New York's dairy cow population and are responsible for the vast majority of associated methane emissions from both enteric fermentation and manure management. (United States Department of Agriculture, National Agricultural Statistics Service. Census of Agriculture New York, 2017). A CAFO has more than 1000 animal units – over 700 cows. A disproportionate share of the money for soil conservation in NYS has been used in building liquid manure systems. Even small dairy farms are encouraged to build anaerobic pits. More than half of the methane from cows in CAFOs is generated in the anaerobic manure systems that the Draft Scoping Plan promotes as a climate solution.

As the Climate Justice Working Group identifies in their 2021 response, there are much

better alternatives to this type of manure storage and handling. We join their call to "Fund transformative practices upstream of manure storage and towards practices that smaller producers can adopt."

Anaerobic manure systems also generate a significant amount of nitrous oxide (NOx), which has roughly 300 times as much global warming potential (GWP) as CO2. According to the

EPA, NOx emissions from soils comprise 50.4% of all domestic agricultural emissions. The Climate Action Council must account for the amount of NOx that anaerobic manure systems generate, calculating the total global warming potential of the system instead of just the amount of methane.

Manure from pastured cows generates less than 2% of the methane from anaerobic liquid manure, and 'dry' aerobically managed manure only generates about 7% as much methane as anaerobic liquid manure.



Manure pit with cap, photo provided by author

According to Lehner and Rosenberg, "Digesters reduce methane emissions when compared to unregulated liquid manure management systems, but liquid manure management systems have the highest per-head methane emission rates among all methods of manure management ... It is not only the most expensive method for reducing manure emissions, but it is also among the least effective." (p. 99)

The investments that result from the CLCPA scoping plan should accelerate the conversion of NYS to a localized food production/distribution system grounded in family-scale community farms. The wins pile up when we improve food security, reduce GHG emissions, increase climate resilience, improve food quality, strengthen the state's rural economy, increase farming opportunities by enabling new farmers, and particularly farmers of color, to gain access to the resources needed to farm, and protect farmland all in one set of policies. Let us learn from the food chain disasters of the Covid-19 crisis and not simply add good practices to the bad existing system. That will not result in long-term solutions that meet the ambitious and socially just goals of the CLCPA.

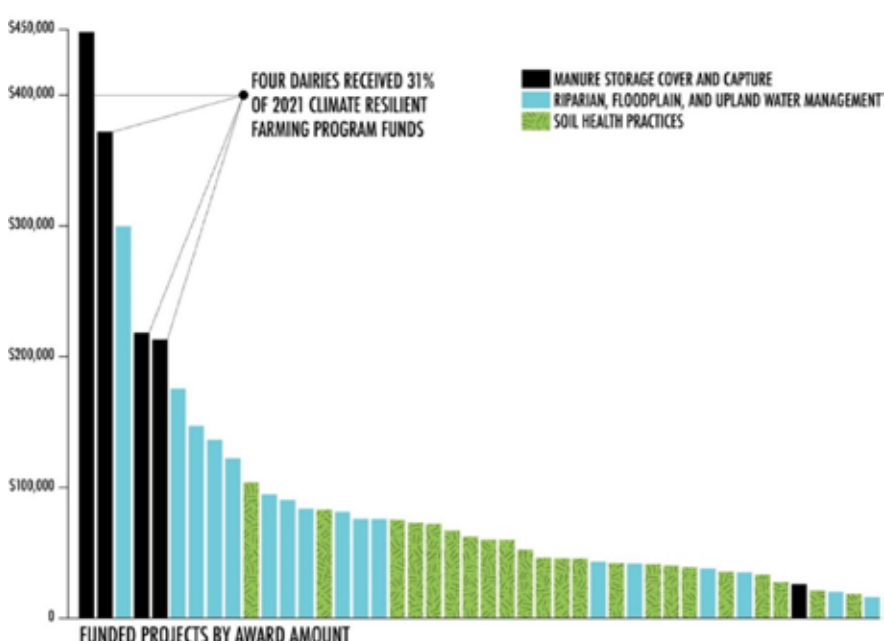
Resources:

- New Research Shows 50 Year Binge on Chemical Fertilisers Must End to Address the Climate Crisis. iatp.org/new-research-chemical-fertilisers.
- Peter H. Lehner & Nathan A. Rosenberg, *Farming for Our Future: The Science, Law and Policy of Climate-Neutral Agriculture*, ofrf.org/wp-content/uploads/2022/03/OFRF_National-Organic-Research-Agenda-NORA_2022.pdf
- Liz Carlisle, *Healing Grounds: Climate, Justice, and the Deep Roots of Regenerative Farming*. (Island Press, 2022).

To see NOFA-NY's top priority comments go to nofany.org/advocacy-new-yorks-climate-act/

Liz Henderson is an active member of the NOFA-NY Policy Committee elizabethhenderson13@gmail.com

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Getting Back to Nature

by Obiora Embry

In March 2013 my life was changed for the better...I stepped onto the two acres of fallow grazing land to see in person the land that my twin brother, Irucka Ajani, and I were to use for our “forest garden” project. This was our eighth-generation Black family farm. I didn’t know then but we were to go on a wild ride to re-learn and “get back to nature.”

Growing food in an urban area prior to March 2013, I never had too many issues with wildlife, especially not deer. However, as Irucka and I worked out our plan of creating a forest garden, and after heirloom fruit trees were planted on our two acres, I found out the damage that deer can do!

Needless to say, I learned about the autumn habits of deer firsthand as I returned to our two acres to see eaten trees and trees with their bark removed. I decided to go to battle with the deer and devised a plan of action:

1) Deter the deer using optical disks hung up by fishing line from tree branches.

2) Research and plan to grow living fences to keep the deer off our two acres.

Two or three years later, I realized the deterrents I used were no match for the deer (I never got around to the living fence but tried other low-cost deterrents with #1). I had a change in perspective - I remembered that agriculture includes animals and that grazing animals and the plants they consume have a bond that can be mutually beneficial.

As I began to look at the deer as our grazing animals, I stopped looking at them as pests, but rather as an important cog on the wheel to help restore a balance on our two acres. So instead of trying

to deter them, I decided to work with nature and provide food for them, especially in underutilized areas on our two acres. This approach allowed us to co-exist. As my thoughts began to shift, I realized that our two acres is more their home than ours as neither Irucka nor I live at the farm, and it wasn’t until January 2020 that we started to make going to our two acres a higher priority within our lives.

Last fall there was a small stand of trees that I had wanted to diversify. I planned to work on it during a trip in late 2021 or early 2022, but it appeared that the deer (or some other animal) beat me to the punch. Needless to say, I was pleasantly surprised and grateful that many trees in the area had disappeared with no trace! That weekend I was able to shift gears and work on other tasks.

My attitude toward wasps has also changed. Looking back and remembering the community garden where cow peas were growing, I remember seeing lots of wasps busy pollinating. Flash forward 10 or so years, and I realized the error in my negative thinking about wasps (as I had forgotten what I saw at the community garden).

In preparation for our annual family reunions, there is a lot of mowing to make the farm look pristine, but in doing so, we remove the food sources for wasps and other pollinators. Pollinators (other than the wind) forage on warm days and just like hungry humans they can get “hangry” when there is a food shortage, even more so if they knew that the day before there was an abundance.

With this realization, Irucka and I strive to grow and nurture a wide variety of flowering plants so that even when their food sources elsewhere on the farm are gone, they still have a place at the table on our two acres.

Through our collective efforts and an innate desire to “get back to nature,” we are actively working to

“balance the rift.” When we first stepped foot on our two acres, we saw two large brush piles and lots of barren land from where we had bulldozed the land for our usage. Now our two acres are home to a diverse array of plants and provide habitat, food, and/or shelter for a variety of wildlife- not only deer and wasps.

Obiora Embry is a creative and intelligent landscape photographer, computer developer, writer, author, food grower, forager, consultant, home chef, who has a diverse background and skill set.



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Confronting Corporate Control: Update on organic contracts in New York and New England

By Ed Maltby

On March 8, 2022, CROPP Cooperative/Organic Valley opened their cooperative to 90 farmers that have lost their contracts in the last year. This generous action that will enable these farmers to have a home for their milk has only happened once before, in 2009, when HP Hood dropped all their organic contracts, and once again, CROPP stepped in to pick up those contracts. With HP Hood, CROPP also took over the Stonyfield fluid brand to market their milk in a growing market. In 2022, the CROPP Board and member owners have taken on the risk of marketing the milk in a market with slow growth, inflationary pressure and at a time when its northeast members were just ending restrictive quotas.

Against a background of mixed information from the media, Travis Forgues, Executive Vice President of Membership for CROPP, reports that they have given approximately 90 Letters of Intent's (LOI) to organic dairy farmers in the Northeast. Of those 90, any farmers joining the cooperative under the 100% grassmilk program enter with full membership. This is because demand for CROPP's grassmilk is outpacing supply in a very strong growth market in this category.

This action of offering so many farms LOI's is a transformation from the slow and steady approach that CROPP had previously adopted and is a remarkable action that none of the other existing brands or companies have shown the courage to

do. For all these farmers, the fact that they have a possible home for their milk into the future gives them the stability that they crave and a buyer they understand.

For those not familiar with the supply side of the organic dairy market, this commitment goes along with many different challenges for the company. First, CROPP needs to be able to move the segregated organic milk from the farm to the processor, which is becoming ever more difficult and expensive. Second, finding the processing time in a market that has limited manufacturing space for organic segregated product without having to ship the milk long distances, adds to the problem. Third, there is also the increased time to service these new farms by the CROPP field representative, bring them up to the quality standards that CROPP requires and being able to balance supply with increased volume to maximize the return to the coop.

The LOI is a short and very clear document that is the start in the process of full membership of the coop. It may take up to 5 years for some of these farms to move to full membership. It does not directly mention any Pay Price. Farms that do not qualify for the grassmilk program are being offered a reserve pool agreement. The LOI for those farms is an agreement that the farm's intention is to ship milk through CROPP, conditionally on them meeting all the terms and conditions of the cooperative's reserve supply group agreement, membership agreement, bylaws, policies, and on meeting CROPP's membership qualifications (Page 4-5, Policy 1.2). They have to sign the agreement within 30 days of March 8th, 2022 to start the process. If they meet all the necessary requirements that CROPP has they may be able to start shipping milk to CROPP be-

tween June 2022 and February 2023. There are other conditions the farms have to reach about informing their certifier, giving notice to their existing buyer and ensuring their handler is a CROPP cooperative partner. There is no data at this time (May 22, 2022) as to how many of the LOI CROPP has issued have been turned into the farms being members of the reserve pool and who will ship milk to CROPP.

Travis Forgues confirmed that the reserve pool will be paid full organic premium for the first 95% of their milk, with the remaining 5% having a deduction that is used in CROPP's supply management program. These farmers will not have to pay equity until they become full members, so the cost of this 5% deduction does not affect the farmers' net income significantly. The CROPP quality program is not a tiered, all or nothing approach, like Danone's, so the payment for this program should increase the return to producers that they were not receiving from Danone. CROPP's stated reason for the utilization rate is that there is a risk in taking on milk that doesn't come with any markets at all. It is a risk the member/owners are taking, and it makes sense that the company has a small buffer for utilization costs of this type of supply. Also, CROPP's national utilization of their supply in organic sales is very close to 95%, so the number closely links to what their supply-demand balance is. CROPP hopes to move these producers out of the reserve pool agreements as fast as possible. Once signed up, any producer wanting to leave CROPP has to give 180 days' notice.

(continued on B-19)

Produce Pop-Ups for the People

by Emma Gonzalez

Over the course of three seasons farming and all my years eating, I had never seen purple cauliflower. Apparently an alchemy of sun exposure and sugar exaggerate the otherworldly hue. Salivate, I did. Despite the threat of a downpour, similarly intrigued flocks of neighbors coalesced around the tent that displayed a myriad of produce. Gentle, infrequent droplets did little to deter the curious children peering at the cornucopia of vegetables before them: violet brassicas, fresh basil drooping over the sides of buckets, rainbow chard - another pigment anomaly - sweet corn you could munch raw off the cob, the milky silk flossing your teeth, and of course, potatoes, carrots, and onions - the staple crop skeleton. This cornucopia, birthed from the earth, and tended by farmers across Vermont, materialized (with effort, not magic) in a neighborhood in Burlington's South End stewarded by Tamarack Hollow Farmer, Nour El Naboulsi and Naomi Peduzzi of Digger's Mirth Community Farm.

The People's Kitchen, a local BIPOC-led mutual-aid group spearheaded by FaReid Munarsyah, has been serving hot meals, household necessities, and pantry staples at events, rallies, and in neighborhood pop-ups since 2011. With the premise that free food frees people and feeds revolution, The People's Kitchen became a respected force for food and community in Burlington. In the spring of 2021, Nour, a friend of The People's Kitchen, received an Agency of Agriculture grant to experiment with adding a produce stand alongside FaReid's existing ventures. The enthusiasm with which the project was received made apparent the need for multiple avenues to food security. Fresh produce doesn't reliably play a role in meal planning for the many people living in this country, but Naomi and Nour showed up week after week in Burlington neighborhoods during the growing season, forging a reliable channel for fresh food access.

Every Friday, Naomi and Nour gather gleaned food from area farms, redistributing edible excess produce by bringing it directly to two communities in Burlington. From my perspective as a former farmer, gleaning is the highest affirmation of our tireless toil in the soil to grow edible food. Food rescue offers an avenue for vegetables to get to as many plates as possible while alleviating farmers of the onerous task to pluck every last carrot from an extra bed seeded as climate collateral or find a market for those small onions. It is reciprocity and validation of a food system meant to feed. The People's Farmstand makes this reality tangible as a pivotal link in the food chain connecting produce to eaters.

Still in work pants and boots fresh from a day harvesting beets or bagging greens, they pivot from growers to distributors, bringing the food directly to the people. First stop: the community fridge generously offered by the Intervale Center to store produce gathered throughout the week. It is a clunky affair with limited space and awkward maneuvers to tetrise the abundance into Naomi's hatchback. Two ratchet-straps cinch a wooden saw horse onto the roof, soon to be a makeshift table. At Pomeroy Park in the Old North End, college students and Vermonters alike ogle at the bounty and sometimes a homemade loaf of rhubarb bread is exchanged as a thank you. Produce is displayed market-style, but rather than breaking the bank, these vegetables come with no strings attached. The only catch is that people show up to take them, no questions asked, reinforcing the merits of this innovative approach to food access.

Creative efforts to tackle food access from a number of angles have cropped up over the years in Burlington. The Covid-19 pandemic especially illuminated weak corners of our global food chain and laid bare structural inconsistencies leaving community organizations floundering for funding and hungry for governmental assistance. But hunger does not wait for policy to be written or procedure to be followed. Hunger haunts communities and begs the body for sustenance. So, Food not Bombs, Everyone Eats, the People's Kitchen, and the People's Farmstand,



Purple Cauliflower. Photo from wikimedia.

among countless other organizations, heard the resounding plea, persistent long before the pandemic, to address this cacophony of food insecurity. The People's Farmstand, small but mighty, is a piece of this resilient network connecting people to fresh food, humbly providing a morsel of liberation from barriers to acquiring and consuming vegetables. Additionally, autonomous self-selection of variety and quantity of produce shifts power into the hands of eaters and has made evident the desire for more culturally relevant produce.

At the South Meadow apartments in Burlington's South End, the Farmstand's second location, people gather and swap recipe ideas. One man, keen on chard, loads his arms with the curly rainbows. A kid zooms by on a bicycle. Grins abound. Several languages hum in the air and new names for familiar vegetables are exchanged. Half of the visitors to the Farmstand are New Americans, so Naomi and Nour are focusing on increasing the diversity of produce, up from 40 varieties, this coming season. While again balancing full-time jobs, the two plan to continue popping up in casual market style and intentionally craft the future of the Farmstand based on community needs and preferences. This requires communicating with farmers during crop-planning and compensating them for produce as would any wholesale buyer.

NOFA-VT has funded several farms to grow produce specifically for Nepali and Somali community members frequenting the Farmstand and Naomi and Nour are sewing seeds in plots around the city. They are hopeful that the Farmstand can partner with more community organizations to mutually support one another, identify blind spots, and serve as a platform for resources and dialogues on community topics. Community support has been robust since the start, but labor and funding are more fickle. A full-time UVM intern, Sadie Bloch and a growing volunteer base add necessary fuel to the project. Burlington's Peace and Justice Center is the official fiscal sponsor and a hopeful search into alternative funding sources to fuel longevity is well underway.

The day I first visited the farm stand, as a storm brewed, so too did thoughts of a reimagined food system grounded in a gift economy and accountable to community members. In reimagining the food system, the People's Farmstand demonstrates that high quality, beautiful, dignified vegetables are not a privilege or indulgence, but a taste of possibility for all. Here it is, a hopeful model of community care and at the center, the royal cauliflower displayed in all its dignity and vigor, fit for a feast.

Emma Gonzalez works with Everyone Eats at the Intervale Center in Burlington, Vt and can be reached at 413-768-7757.



Animals on the Small Farm

by Jocelyn Siegel

I don't have the acreage that many would call a farm, yet it still is one. I live on four acres, two of which are cultivated with food and flowers, and two of which are heavily wooded and wet. The two acres under cultivation are not only gardened and used for food production, but are home to animals as well. I find that animals are essential to farming, and I don't think the land would be as productive without them. They produce in their own right, but they also contribute to the production of other things. Over the years I have had many different types of animals on my farm, and can speak of a few.

Chickens

Chickens are a benefit to the small farm in many ways. The most obvious is in eggs and meat, and they excel at it. Additionally, the bedding and droppings from the coops provide fertility for the soil in the gardens. Though chicken manure is considered "hot", it can be aged over a season and used very successfully. I do a large coop clean out twice a year, in spring and fall, and age the manure in a pile over the winter and summer. It is then ready for use. Chickens provide other services as well, however. They eat bugs and can turn soil. People keep them to decrease the tick populations in their yards (though I feel that Guinea Hens are better at this). They can also be fed with scraps from the kitchen quite successfully. I like the benefits of feeding leftovers that no one will eat to the chickens. It makes me feel better about keeping that food out of the landfills.

The Silkies, I admit, are seemingly more decorative than useful at first glance. They do lay eggs, though they are small. They also are great foragers and bug hunters. But I keep them for a completely different reason altogether. A Silkie will sit on any egg and hatch it for you. I have put chicken eggs under my

(continued on next page)

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(dairy - continued from B-17)

Maple Hill Creamery

Maple Hill reports that they made a decision to increase their price to retailers to cover increased costs of trucking which has put them in a position to extend the contracts of 22 of the farms that were going to be dropped in June 2022, until the end of the year. Despite the fact that Byrne Dairy has stopped processing yoghurt, Maple Hill has stabilized its other processing partners and has a positive attitude moving forward and sees a great future in the Grass Fed market. They have been able to extend the contracts of all but 5 of their farms.

Danone/Horizon

Danone has been very quiet recently and have not kept their current and former farmer suppliers informed about their next steps. What is worrying producers is that lack of communication linked to the most recent media report that Danone, during an investor day presentation on Tuesday, March 8, 2022, told their investors that there are “no sacred cows” and that the dairy giant will “keep pruning” its portfolio as it aims to boost growth and distance itself from recent underperformance.

The France-based company said it would improve performance in “troubled offerings such as Horizon Organic” and traditional dairy; invest more in winning products such as yogurt brand Oikos; and create value by selling existing brands or buying new ones. Under its “Renew Danone” platform, the company aims to restore its “competitiveness” in core categories and geographies and expand its presence in segments, channels and geographies.

Producers report that those who have ended their contracts with Danone have not been paid the \$2 per hundred transition payment as promised. Producers have been told the payments will be sent automatically once the producer stops shipping milk. Apparently, there may be the usual delay in settling out the protein and quality components and then a check will be mailed along with a letter confirming the mutual termination of the agreement. For some of

these producers, it has been over 6 months. Even the most inefficient company that had been paying producers for their milk does not take this long. Danone has also not provided any commitment or process for distribution of their promised investment in the northeast organic dairy infrastructure.

At the annual shareholders meeting in France recently, shareholders asked the question of Danone whether they have delivered on their very highly publicized promises to farmers. The shareholders received the same media release that Danone circulated in the US. Danone has refused to meet with producer groups to discuss how they would be following up on their commitments. Apparently, Danone still has not got the message. Perhaps this will at last make the B Corp folks sit up and take notice.

A suggestion submitted in writing to Danone that would be a win-win for them and farmers: As some of these producers are now looking at new contracts moving forward and having to meet conditions which might involve improving their operations, it would be useful to the producers, and perhaps simpler for Danone, if they

paid the transition payment now to all their farmers whose contracts they have canceled. If Danone was to make all the transition payment now, it would make it easier than paying when individual farms leave, all with different end dates to their contracts, and could end confusion over which months of production they will be paying for. If all the farms were paid for the six months prior to September 2021, there would be consistency, equality and transparency. It has been suggested that Danone match the \$20 million that the USDA has put into the northeast dairy to improve infrastructure and resources for farmers. Farmer groups have provided a long list of the ways in which Danone could invest dollars in northeast organic dairy.

The Horizon brand is only one of the many dairy products that Danone sells to consumers. It has been suggested that the Horizon brand will be sold, I would hope that any new owner has to honor the promises that were made to producers. Consumers can register their disapproval for Danone’s action by buying less Danone products, asking retailers not to stock Danone products and support brands that invest in northeast organic dairy. Danone has said many times that this is ‘only’ about the economics of supply logistics, it’s time to make it also about their bottom line.

Ed Maltby is the Executive Director of the Northeast Organic Dairy Producers Alliance (NODPA).



(animals - from B-18)

Silkies, as well as duck eggs, and once a goose egg. They sit like champs, no matter how long it takes, hatch the egg, and will raise the offspring. They are wonderful as incubators and mothers.

Geese and Ducks

I have a few geese and ducks on my farm, primarily for manure. I do not find goose and duck manure to be as “hot” as chicken manure, so I use it lightly in the garden on plants with very little aging. Also, both species lay eggs, with duck eggs being more commonly known. They are wonderful for baking, due to their higher protein content.

The benefit of the geese is their ability to “watch-dog”. This does not simply mean that they let you know when the UPS man arrives, though they certainly do. I speak more of their tireless ability to watch the sky. Most people notice that geese are always looking up. They are, and many times they are so busy looking up that they trip over their own feet or things on the ground. However, the benefit of this odd but normal behavior is that they can spot predators in the sky from far away and then warn the other birds. Their warning is understood by everyone in the barnyard, no matter the species. If anyone is free-ranging at the time, they duck and cover. This is probably one of the few times that the noise geese make (which is quite a lot--they are a vocal animal) is a welcome one. They can do the job of predator-watching for the farmer so he or she can do other tasks without distraction.

Goats

Lots of my property is wooded and not conducive to grazing animals even in a silvopasture system at this time. Though I would love a cow, I have nowhere to graze her. In addition, the amount of milk produced would be overwhelming for me to deal with daily. My property is more appropriate to a browsing animal than a grazing one. Enter the goat. Goats are excellent at eating the scrubbiest bits of things and turning it into delicious and nutritious milk. Though they seem to require solar charging on warm days, they require little in the way of grain if they are not in milk. They eat the scrub under the trees and hay with gusto. The girls I keep milk out at about a gallon per day. Each goat will be different, obviously, but I’ve found this to be about the average. The milk produced is also quite tasty. We find it to be better than cow’s milk, with no “goaty” taste to it. It makes really enjoyable cheese, yogurt, and buttermilk too.

If you have woods, goats can be a great choice as a dairy animal. They can clean up the scrubby bits of your land and eat sticker bushes and wild brambles without trouble. Their nimble legs and feet make them well suited to climbing over rocky areas and downed trees and branches. They will clean areas of scrub in no time. It should be noted though, that they tend to scalp the bark of trees when there is nothing else for them to eat, so any tree you wish to protect should be fenced off. We learned this lesson when my herd started to go after a valuable and old Tulip Poplar that is in their yard. We fenced the tree to protect it, and it is doing fine.

There are many more animals that can be found on a farm of any size--I have spoken about just a few. Even a small farmer like myself can benefit from animals on the farm, if they are cared for properly and given “jobs”. I cannot imagine my farm without my animals - it would be incomplete. They are essential for the cycling of nutrients, they produce food, and they are just nice to be around. I would recommend keeping livestock to anyone.

Jocelyn Siegel runs Chicken Scratch Acres in Walker Valley, NY



Lessons from the Land... *and other musings*

Lessons from the Land is a new TNF section that brings a personal perspective to the paper and is meant to capture stories about a nonfiction subject, instance or happenstance that only the writer knows. Maybe it's something you learned while gardening, a regret, a reflection you had when you saved an animal's life or witnessed a death or an epiphany you had while watching a thunderstorm. Stories of love, life and loss from the land are all welcome. Stories may be submitted anonymously if preferred. Submit anytime at thenaturalfarmer.org.

Summer in Upstate NY

Let's admit it – a glass that is half empty is ALSO half full.

That is just called realism.

The rain that makes a perfect field of organic soybeans grow like crazy, that fills the pastures with lush clover, and feeds contented, productive cows ALSO makes the weeds grow, the wheat to sprout before harvest, the cut hay to darken.

The abundant hot sun that makes the corn stretch by inches each day ALSO crusts the soil and makes farmers hot, tired and (just a little bit) cranky. The long days that stretch far into the night to harvest the wheat and cultivate the fields fills the bins with golden grain, produces delicious tomatoes and pristine fields, ALSO creates exhaustion, short tempers, dirty jeans and neglected families.

An essential job, packed with demands and constant work makes a business profitable and productive, gives meaning and purpose to our time and effort, and helps others and makes a difference ALSO can feel like a never-ending treadmill of overlapping demands, never done, never good enough, running at unappreciated high speed.

Many many years ago, my mother-in-law-to-be put her hand on my shoulder, looked deeply into my eyes and intently said "The weather will never be right".

I thought she was crazy!

Over the years, I have learned how very wise she was.

Never ever have I heard any farmer say "This weather this year is simply fantastic, my crops are amazing, this season is terrific, my machinery is working perfectly, everything looks so good, I am so very grateful for everything going right, and thank you for all you do to support and help me get all this work done!"

Any farmer worth their dirt will ALWAYS have something to complain about - breakdowns, rain, drought, markets, neighbors, weather, breakdowns, their knees, the government, spoiled hay, bugs, neighbors, weather . . .

In some ways, complaining is the adrenaline, the lifeblood to push themselves to keep going, doing more, longer hours, working harder, comparing themselves to neighboring farmers, never satisfied, always more to do.

But today folks, it is lovely late summer here in Upstate New York!

Lovely late summer in Upstate New York, where the sun rises early through pink cloud billows over the lakes and then, long dusty hours later, the same sun sets fiery gold in the west. The mornings are foggy and chill but perfect by noontime, with sweatshirts misplaced in tractors, truck seats and on garden paths.

Lovely late summer in Upstate New York, where there is an abundance of sweet corn and tomatoes, juicy melons and plump blueberries, new potatoes and green beans, our gardens, fields, orchards and plates overflowing with the wealth and sweetness of summer!

As we slog through a challenging oats harvest, the rain keeps raining, the pasture keeps growing, the cows are munching, and the farmers are so tired. But we delight in the joy of pigs on pasture, the long rows of corn tasseling above our heads, the plump chickens in their movable pens, the smells

of fresh hay and pungent silage, moist grain and summer morning air, the greenest greens, the golden grains, the rich dark earth, the bluest sky, the juiciest tomato.

We delight in the tangible touchable fragrant joy of harvest, the solid physical truth of our hard work and time.

We order our fall cover crop seeds, we check our feed bins, we enjoy watching our plants and animals grow, . . . because this half-full/half-empty glass, yes, all of this - this is what we do, this is who we are.

Lovely late summer in Upstate New York - please pause a moment, look up from the endless work and pesky weeds, breath deep the warm summer air, see the colors, feel the sun, smell the sweetness and feel the delight.

It will not last for long.

*Mary-Howell Martens,
Lakeview Organic Grain, Penn Yan, NY*

Chasing Tomatoes

Fences were few in my suburban New Jersey neighborhood when I was forming my first memories in the late 1970s, so the neighborhood kids had free range. Only Henry's yard, an unusually large two-acre lot running perpendicularly behind mine, was off limits. Henry's rusty wire fence stretched between weathered posts roughly hewn from gnarled trunks of small trees. It was difficult to climb.

But climb we did, as the domain beyond was irresistible to adventurous urchins. Over the fence, past a stand of ancient pear trees that went thump in the night, was the largest open area in the neighborhood, surrounded by such enticements as a dilapidated chicken coop, an apple orchard, a wild clump of bushes, and a mountain of logs, leaves, branches, and snakes that beckoned to be conquered. Being a forbidden zone made it all the more alluring.

The large open field, perfect for playing tag or wiffle ball, also happened to be the heart of Henry's farm. As trespassers, we knew there was a time limit on our play. Games would end suddenly when Henry inevitably ejected from his house bellowing, "Hey you! Get out of here!" (He always said the same thing.) We would scramble in terror, diving into the bushes to escape on hands and knees through an elaborate network of tunnels under the foliage leading to a secret hole in the fence and safety.

Though we weren't stealing produce or doing anything overtly malicious, we had some understanding, albeit incomplete, of why we were always chased away. After all, this was no ordinary backyard. I heard Henry veer from his usual line one afternoon as I scurried through the bushes after a particularly close pursuit. Roaring in frustration at the trembling thicket, he explained, "You're too young to know what goes on around here!" I wonder how much of his hard work we had unwittingly trampled underfoot that day.

Perhaps it was the prevalence of gardening in our neighborhood that prevented us from comprehending that Henry was operating on an entirely different scale. Many of our neighbors were impossibly old first generation Italian Americans with extensive vegetable gardens. My parents had a substantial garden out back. It's hard to recall anyone in the neighborhood who didn't at least have a vegetable patch. But only Henry had a farm.

Henry never complained to my parents or even seemed to recognize me as a transgressor—despite my unmistakable mop of blonde hair—when I was

on my side of the fence. He was always an amiable, easygoing, ideal neighbor. He chatted with my parents over the fence, sharing gardening tips and the literal fruits of his labor. We often found bags stuffed full of his freshly picked produce slung over the fence post for us to enjoy.

Spending summers eating from my parents' garden, I was accustomed to fresh produce, but somehow Henry's tomatoes were transcendent. They burst through my fog of childish cluelessness and made me take notice that something so simple could be so moving. My senses sprang to life with the aroma, color, texture, and flavor of these magical fruits. They danced with the mayonnaise in the pink juice that gushed from tomato sandwiches my grandmother made. They were the taste and spirit of summer.

Decades later my wife and I bought my childhood home and moved in. The neighborhood had sprouted many fences over the years, and there were few kids about. Dirt tracks that were cut by bicycle tires through the grass on every corner in my day had filled back in. Kids nowadays were having their adventures on screens indoors.

There wasn't a single vegetable garden anywhere in the neighborhood. Henry's yard had become overgrown, and a family of foxes moved in. But Henry, now into his nineties, was still there. He recognized me despite my blonde mop having receded into a roundabout. He was as friendly as ever, and I was delighted to talk tomatoes with him as a peer—a fellow gardener. I had just started my first garden and was eager for tips from the master.

He showed me a miniature greenhouse next to his porch where he was incubating tomato seedlings. He was partial to the Jet Star and Ramapo varieties. He creaked open his garage doors and showed me his favorite gardening tools. Then he led me to his backyard, my first time there as an invited guest. From a shed that I had never dared approach as a child because of its proximity to the house, he retrieved a fertilizer he recommended.

We enjoyed many conversations during my years back in the old neighborhood. Though I told him how much I enjoyed his tomatoes in my youth, I never explained how the sights and smells of his farm shaped my tastes and the aesthetic I seek out in life, akin to what the Japanese call wabi-sabi, a sort of beautiful decay. If you've ever admired a mossy old barn or rusted-out tractor, you know what I mean.

My formative time trespassing in Henry's yard also influenced where I wanted to live, which ironically was no longer in the very place that shaped that predilection. With population density and noise levels going up and trees coming down, it was time for me to move on to more rural climes.

Henry nearly made it to 100 years old, affirming the benefits of an active lifestyle and healthy diet. His land was recently paved over to cram in another cluster of identical McMansions. Hopefully the foxes found new homes.

I continue to chase after those tomatoes that made such an impression on me in childhood, mostly at farmers markets these days. I grew tired of squirrels in my garden picking my tomatoes at first blush, taking a bite, and then discarding them for being underripe. But I'll try again someday. I like to think that as I walk through life, I still have some of Henry's soil on my shoes.

Doug Kutney runs a haiku farm in the Berkshires, kubyu.com, and can be reached at hi@kubyu.com.

(continued on next page)



Xóchitl Garcia, photo by Imani Jean-Gilles.

(musings - from B-20)

Tlaxcatec Roots on Eansketambawg Soil

I'm a 26-year-old urban farmer in Eansketambawg territory located within the state of Quinnehtukqut. Cultivating the land is as old as my Tlaxcatec lineage, yet my agricultural experience sprouted two years ago.

My Mexican parents never taught their four Mexican-American children about farming. To them, farmers are people who just needed to survive just as they had before immigrating to the United States in 1992. When my parents found out that agriculture routed itself into my life, they were in disbelief with a hint of disappointment. They gradually learned that farming was a way to reconnect and explore our Indigenous heritage. My farm work also extended to creating a more local food-equitable system right down the road from our family home.

One of my most challenging moments at the farm was a sleety morning on October 30, 2020. Thirty minutes into my shift, my jeans got soaked from removing a stubborn water filter. I had so many tasks to complete before the weather worsened. Roll and haul 60-foot hoses, collect scattered harvest containers, and cut down over three dozen dead okra stalks in a non-insulated greenhouse. My whole body was numb. I could barely hinge my joints. I was needle-thin close to calling it a day. Suddenly, a floating thought caught my mind. My ancestors endured extreme climate. Climbed mountains. Sailed oceans. Built villages by hand. Here I am whining about the cold. I am better than this.

That small moment revolutionized my capabilities as a farmer. My stamina was no longer affected by my tiredness but my willingness to find a new stamina threshold. My over-preparedness for the day was not tied to the what-ifs but focusing on the what-nows. My desire to farm seasonally was more than production but building community. While I may not be historically Indigenous to Quinnehtukqut, my actions both honor the huecauhtata, ancestors, of the Tlaxcatec and Eansketambawg people.

Xóchitl (sō-chee) is an urban farmer in Connecticut who uses farming as a way to spiritually reconnect with her Indigenous ancestors and fruitfully give back to her community. She can be reached at xochitl.ahtziri@gmail.com.

Into the Depths

You mustn't go to the depths of the hole, where the waters are dark and cold. In that cave there are sharks lurking where you cannot see and your movement will startle them with fear. You mustn't go there, where you'll gasp for air and not reach it. Your snorkel is full with water; your scuba tank has run dry.

You mustn't go to the deep depths of the woods, where the trail appears to go in every direction. For when you follow it, it is gone. You are lost, walking deeper into the thorny thicket.

Instead you must only go to where the Great Blue Heron steps stealthily at the pond's edge; where the glimpse of the fiery Oriole catches your eye and the breeze enlivens the hairs on your skin.

You can only go to the place where the golden sun shimmers across the landscape; where the sunflowers bob in the breeze and the stars expose the vastness of your being.

For it is only here; where life exists.

Where you breathe deep and free. And rest in the wake of the world.

Anonymous, New York farmer

The Eagle

You come down to the creek still suited in expectation and looking for the water to do something to you.

Straw etched into creases unknown before this day in April a farmhand's first season

What do you do for the lake's body?

an Eagle pumps heavy from the north over the field her wings pushing through

unusual heat haze

she swoops to some creature nestled in grasses as geese soar calling out urgent and repetitive like a wave of echoes from a single shriek

the creek cools your left foot drooped over a ragged rock's edge like a swimming noodle suds on the water formed from canoe afterthoughts now just past the crest sweetly kissed to silence an avalanche of spring buds

Where do you wish you were when the world is here?

Eliza, they/she, is an artist and farmhand working at Tributary Farm in High Falls, NY.

Digging for Carrots

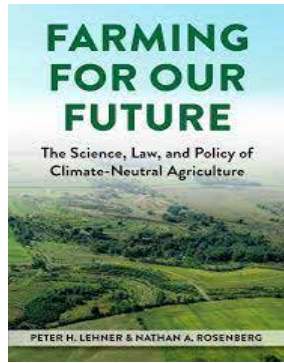
While digging for carrots under the sucking dry sun and amongst spiny weeds I am confronted with a smaller world: Below,

a giant is tearing a path through the forest. It's known in these parts: the Clumsiest Predators are wont to barrel through razing entire neighborhoods in one fell stroke obliterating homes of the otherwise fearsome red-winged blackbirds and groundhogs.

These huge beings thunder down in an instant mammalian toes swathed in rubber limbs transmuted

(continued on B-23)

Book Reviews & the Farmer's Library



Farming For Our Future: The Science, Law, and Policy of Climate-Neutral Agriculture
By Peter H. Lehner and Nathan A. Rosenberg

Environmental Law Institute (December 23, 2021)
272 pages, paperback
\$24.95

Reviewed by Rema Boscov

Future is the keyword for this book, which is 242 pages packed with details and recommendations, research, facts, graphs and charts explaining agriculture's current contribution to global warming and its enormous opportunity to adopt practices that mitigate our climate crisis.

Peter H. Lehner and Nathan A. Rosenberg, lawyers specializing in agricultural law and policy, offer a blueprint for dozens of changes that agriculture can make to curtail fossil fuel emissions, sequester carbon, reduce methane and nitrous oxide emissions, and much more. The book's recommendations range from farm practices and food processing to consumption and waste to EPA regulations and fertilizer production. It offers discussions about on-farm and off-farm problems often overlooked, and suggestions for policies that, if implemented, could greatly reduce global warming. The authors explain the science clearly, offer a lot of examples as well as policy and legal recommendations.

A significant point of enjoyment with the book is that Lehner and Rosenberg don't dwell on climate despair; they offer hope. Using graphs and research data, they show that changes in our agricultural practices could greatly reduce greenhouse gas emissions and sequester carbon, despite the potential for carbon loss due to fires, floods and microbial deaths. They suggest several ways to transform farm policy toward climate-neutral agriculture. Among those suggestions are increasing funding for climate-related agricultural research, outreach, education and technical assistance. They believe that the USDA should use its rulemaking authority to require farmers receiving commodity payments to adopt cost-effective climate-friendly practices, such as cover cropping, and that Congress or the USDA should eliminate or reduce payments to CAFOs.

There's a lot in *Farming For Our Future* to learn and think about. For instance, Lehner and Rosenberg explain the carbon sequestration advantages to perennial agriculture of all types, fruit- or nut-bearing trees, grains, forages and vegetables, and then address the current policy disadvantages faced by farmers of perennial crops, which includes a lack of research and funding opportunities. "Agricultural research even within public universities," they write, "is increasingly focused on the priorities of private-sector corporations, which sell inputs that are used less intensively—or not at all—in perennial systems. Federal funding for agricultural research is also generally focused on short-term projects."

Concerning funding: "More than a third of net farm income in 2019 came from government payments and programs, yet farms using perennial practices receive almost no public support. Congress should address this in part through a new federally administered crop insurance program for agroforestry and other perennial operations." Details, history, and many suggestions follow, such as a recommendation for additional training for extension agents to learn the specifics of perennial crop production in order to serve the growing numbers of farmers embracing it.

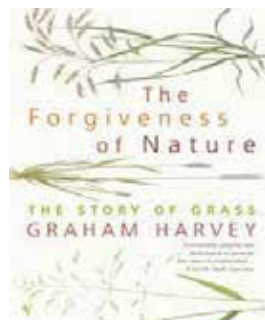
The book includes mention of actions in rural communities such as Black farmers who have led campaigns against concentrated animal feeding operations (CAFOs) and Native Americans whose lands were stolen but who have retained "sustainable and

traditional practices to produce food and connect with their culture."

In a chapter titled "Off Farm Food System Emission Reduction Opportunities," we learn the startling fact that nitrogen-based fertilizers "accounted for 59% of total U.S. fertilizer consumption in 2010, but were responsible for approximately 90% of emissions from fertilizer production." And the numbers continue to astonish. But, that does mean there is room for improvement. "These emissions are additional to emissions resulting from the application of fertilizer on croplands, meaning that the climate benefits of reducing fertilizer use, if accompanied by a commensurate reduction in fertilizer production, are significantly greater than indicated by emissions alone and that significant climate benefits may be achieved by tailoring the types of fertilizer manufactured."

Farming For Our Future details the regenerative practices we need to shift to as farmers if we are to successfully combat climate change. And it takes the next step, recommending policies and legal reforms we should put in place to make carbon farming this country's main form of agriculture. As lawyers, Lehner and Rosenberg are in excellent positions to promote those policies. As citizens, we are in positions to become informed and seek ways to implement them. "Policymakers and others should rise up to this challenge," they conclude. "Our future depends on it."

Rema Boscov is a journalist from Leverett, MA who writes about regenerative agriculture.



The Forgiveness of Nature: the Story of Grass
by Graham Harvey

New Ed edition (January 1, 2002)
384 pages, paperback
\$16.00

Reviewed by Stephen Shafer

This splendid book combines botany, soil science, sports, social anthropology, history of warfare (economic and military), agro-history, and livestock-rearing. Sidelights—these are not tangents—include, for example, the sex life of grasses, the downsizing of the auroch into the cow, a history of the lawnmower, and a chronicle of the guano boom. The author is not a stylist like Henry Beston or Aldo Leopold, yet has a poet's mind, an historian's curiosity and a scholar's thoroughness. Published twenty years ago, the book is thoroughly relevant to today's keen and growing interest in regenerative agriculture as one way to mitigate climate change and restore soil health.

A dominant theme of regenerative agriculture is that sequestering carbon in agricultural soils enhances the workings of microbial life in them to restore vitality and resilience while drawing excess carbon from the atmosphere through photosynthesis. To realize its potential for healing the planet, releases of atmospheric pollutants (CH₄, NO₂) from agriculture must be severely reined in and releases of CO₂ from all sources must be brought to near-zero by 2040.

Sequestering carbon in soil is done almost entirely through growing plants in that soil, grasses being the most widespread and adaptable for the task. Through the forgiveness of nature, this process heals soils damaged by loss of their organic matter to wind and water, losses that are inadequately "replaced" by synthesized nitrogen fertilizers and exogenous minerals.

The book starts with a hymn of praise to grass as a source of joy, a symbol of greening and regrowth, an interface between large land creatures and the soil that sustains us/them. The earth's soils were

begun by fungi and lichens breaking down rock and mixing the detritus with their organic matter. Grass, working with soil biota, amplified and accelerated the process of soil-building. We cannot imagine human life having developed and continued on our planet Earth without its cover of grass over the huge proportion of the non-frozen land surface too dry to sustain forests and jungles. In Chapter 7, Harvey describes how prairie grasses grew the rich soils of the Great Plains; he understates the importance of soil fungi and fauna interacting with grass roots and with the roots of plants besides grasses in that process, but justly puts grass front and center as a food source and soil-keeper.

So sure was I in the readability and quality of every page of this book that I drew four random numbers between 1 and 338: 197, 159, 294, 237. Page 197 treats the harm of the enclosure acts in Tudor England. Page 159 describes the social and pastoral life on sheilings, summer pastures in Wales, Scotland and Ireland. Page 294 laments the decline of large urban parks, due to the automobile. Page 237 deals with the spread of British cattle breeds to the Americas, Australia and New Zealand. Each of these pages is a story worth reading in itself, beautifully told.

Special note goes to the discussion of the Clifton Park System developed by Robert Elliott in the 1880s. Harvey writes "While the farming depression was reaching its nadir toward the end of the nineteenth century, a former Indian tea planter now farming on the edge of the Cheviot Hills of Roxburghshire came up with a sure-fire remedy. He urged British farmers to reject the chemical fertilizers and imported animal feeds that were being thrust at them by brash commercial companies. On a poor Scottish hillside he had proved it was possible to make profits during lean times by rebuilding soil fertility. This was best done not by buying expensive chemicals, but by laying down good turf." ("Chemical" in this context is not what it means to us now, namely nitrogen fertilizers synthesized through the Haber-Bosch process; "chemical" in the late nineteenth century meant, I think, bone from cemeteries and abattoirs that had been treated with sulfuric acid to make superphosphate. The "imported animal feeds" were oilcake and maize.)

I especially liked the life and career stories of R. George Stapledon and Sir Albert Howard. These men, like Elliott, realized (not heeded by many) that humankind should nurture soil. I'd never heard of Stapledon or Elliott until reading this book. Most people these days, if aware, see air and water as precious resources but don't realize that soil is as precious and as much in jeopardy as the other two. Grass (with forbs and legumes), walked on by livestock, is key to re-building and conserving that resource.

I've read, and own, at least eight other books treating regenerative agriculture, including *Growing a Revolution* (Montgomery), *Dirt to Soil* (Brown), *Kiss the Ground* (Tickell), *Resilient Agriculture* (Lengnick), *A Pastoral Song* (Rebanks), *The Soil Will Save Us* (Ohlsen), *Call of the Reed Warbler* (Massy) and *Holistic Management* (Savory). Of all these really good books, my own favorite is Massy's, 50% or more longer than any of the others. For an introduction to regenerative agriculture, or even to agriculture itself, central to the human story, I would put first *The Forgiveness of Nature*.

It may seem odd to review a book that's out of print. There are used copies available from sellers in the US, Britain and Australia ranging in price (not counting shipping) from \$2 to \$68. WorldCat shows it in about 45 libraries in the USA (including Bard College), nearly all of which participate in interlibrary loans. Go find it!

Stephen Shafer raises sheep on permanent pasture without chemical fertilizer or herbicides in Saugerties, NY.



(musings - from B-21)

ed to heavy claws to take with
such force
delectable leaves, roots and
fruits.

At other times, they dig deep
trenches in the soil with ma-
chines
Place their crop in disruptive
straight rows
And only in winter leave rest.

It's as good a home as any.
But today is the day for some,
The last moment—

a carrot-infused reverie
I plunge my fork into the loamy
soil,
and pry a clump upwards

there, in the fork
a beetle writhes with two arms
crushed
a worm bisected,
clusters of egg sacs
like swaddled babes exposed

I am ashamed to view this
disaster.

This run for cover.

Ants jostle eggs in their mandibles
and scam.

I bend down
and through their apocalypse pull
away pieces of mud and mulch
from orange gems of crunchy flesh
sweet morsels, frilly antennae,
into the bins they go.

Our job here done,
we trip out of the bed
haul home the day's harvest.

Tonight we will eat baby carrots
on the front porch as the rain comes.
we will toss lacy greens down
the steps and say
good news.

*Grace Crummett, she/her, Kingston, NY, Grace
Crummett is in her second season as a farm hand
in the Hudson Valley*



FEATURED PHOTO: Two worker bees, up close and personal, submitted and taken by Rebecca Nathan

Cicada Bum

Cicada bum
righteous hum
cyclical dreamers
truth redeemers.

What secrets does the earth tell them as they rest in
their dark, earthy bed
burrowing deep enough to return to our shared
single thread.

Born to die - retreating to the grave upon birth
spending only a brief moment to surface the earth.
Returning just to remind us that death is a lie-
begging us to hear their urgent yell into the summer
sky leaving translucent skeletons to remind us that
leaving our bodies is the only true goodbye.

Like Bees of a Hive

Like bees of a hive
we search for sweet nectar
seeking always more than we already have.
Willing to bury ourselves ever so briefly
in the dark cover of petal adorned flowers
even if we are left to retreat

with only a light dust of pollen.

*Emma works at Plane Meadow Farm in Tivoli NY,
where she has been a lifelong resident.*



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