Inspiration Abounds

by Lydia Irons
NOFA/Mass Public Relations Coordinator

The 45th annual NOFA Summer Conference was filled with diversity and inspiration. This year saw some amazing additions to the conference that brought deeper insight into topics close to our hearts and broadened our community to the international level. We also welcomed back presenters and topics that inform and inspire. With some of the best weather seen all summer, the almost 900 attendees found that the NOFA Summer Conference continues to be the highlight of the harvest season.

The theme of this year’s conference was “Soil Health Builds Human Health.” This was reflected throughout the workshops and highlighted strongly by the intensives. The four half-day intensives where held in the Adele Simmons Hall and as you walked into the door you could smell that you were in the right place. On Saturday, the air was thick with the scent of sauerkraut as Sandor Katz led his “Art of Fermentation” intensive. Addressing a group of over 40, Katz answered questions and led discussions while mixing a huge bowl of kraut with his hands.

“Until the twentieth century, almost all dairy that was consumed had to be fermented. But you can’t just buy a quart of milk from the supermarket that has been pasteurized and leave it on the counter for it to spontaneously ferment. That is a high protein microbial blank slate and what is likely to develop is not the good lactic acid bacteria, but rather some putrefying bacteria,” Katz said in answer to one question about fermenting dairy. His intensive was not the only one to spark an insightful conversation. The “Field to Market Hemp Cultivation” intensive on Sunday not only filled the air with a distinctive aroma, but also got people excited about expanding their enterprises to include this new crop potential. Brendan Beer, cannabis farmer from Greensboro, Vermont who led the intensive, had this to say: “There were a lot of great questions and tons of interest. We have been talking about the niche markets and how the smaller grower can survive in this massive green rush.”

During his presentation on how he has worked around the Hampshire Farm to check out the packed room on the topic of Fermentation. “I would define fermentation as the transformative action of microorganisms.” he began. “One way that fermentation is integral to sustainable agriculture but for caring for the longevity of our planet.

What wonders doth alpacas inspire?

New York who had never attended the NOFA Summer Conference before said “I took the workshops in the Soil Health track and they were really wonderful and inspiring. It is a lot of information, but I am so excited to be able to learn more.” The Hampshire Farm fields served as a backdrop for many workshops, such as Downy Mildews in Leafy Greens. Presenter Susan Scheufele of UMass Extension Vegetable Program said she even learned something new from her workshop attendees. “We toured around the Hampshire Farm to check out the pests and diseases. Folks had a lot of great questions and there was a lot of interest in the beneficial insects that we saw. I learned that the Pink Lady Beetle eats corn pollen and Colorado Potato Beetle eggs.”

Though many attendees came from all across the Northeast, none traveled farther than the winners of the 6th Organic Farming Innovation Award (OFIA); Mr. Mike Hands of Inga Foundation (UK) and Dr. Hiroshi Uchino of the Tohoku Agricultural Research Center, Japan. The Organic Farming Innovation Award (OFIA) is a prize awarded to highlight organic innovations by scientists, extension agents, and practitioners and is awarded by the International Federation of Organic Agriculture Movements, otherwise known as IFOAM - Organics International. During his presentation on how he has worked to solve the issue of slash and burn techniques in Central America, Hands stood in front of a slide of a massive cut away in the earth showing 40 meters of soil. “The pH of that soil is 3.8 where we measured it about a foot down from the surface. That soil supported a tropical rainforest...the entire rooting system of that forest is concentrated in probably no more than 20 centimeters of soil.” He went on to explain that the rainforest had evolved to have a very complex and efficient system of carbon cycling, whereas slash and burn was just the opposite. “Slash and burn is not a system, it is a process. All processes have an end point and that end point in Central America is complete deforestation.” NOFA was proud to host the diverse group of people from across the globe that share our passion not only for organic and regenerative agriculture but for caring for the longevity of our planet.

Saturday’s workshops came to an end as Sandor Katz took the keynote stage to address the packed room on the topic of Fermentation. “I would define fermentation as the transformative action of microorganisms.” he began. “One way that fermentation is integral to sustainable agricultural practices is making compost. It is basically the breakdown of dead plant material, manure and other bi-products of life that renew the fertility of the soil and recycle nutrients back into forms that plants can access.

(continued on page A-13)
Dear Jack,

Congratulations! The board of the Nell Newman Foundation, Inc. is awarding Northeast Organic Farming Association a donation in the amount of $2,500 specifically to fund The Natural Farmer project. The board is very inspired by the work your organization is doing. -- Evelyn Fasheh, Nell Newman Foundation, Inc. (August 5, 2019)

Thank you Evelyn.

This comes as a complete surprise but my colleagues in NOFA will be very pleased at your support. -- Jack Kittredge and Julie Rawson, editors

Dear Jack,

What a dose of spring tonic I received in my mailbox this morning: The BRILLIANT choice of SEEDS as the subject of the supplement, and your review of Robin Wall Kimmerer’s book, “Braiding Sweetgrass”, profoundly appreciative of her voice and message(s), and bringing to my attention topics that I do not even recall from my reading of it two years ago.

I will check it out and reread it, with pleasure, and talk it up.

Hello NOFA folk,

I am only a gardener, but I don’t use chemicals.

Would you sometime do an article – perhaps in my new favorite periodicals, The Natural Farmer, on how those of us who try to be organic gardeners might discourage invasive species such as locust trees and Chinese bittersweet and the invasive honeysuckle without using chemicals? I wrote this plea onto the list serve, but my question was moved off the list.

-- Katherine Conway

Hi Katherine,

Excellent idea! Perhaps we might even devote a whole issue to the topic of invasive species. There are certainly enough thoughtful and conflicting opinions to go around, and that generally makes a good topic. Anyone else out there think this is a good one? As part of it, of course, we would devote space to ways of dealing with invasives, if that is your choice, in an organic, effective and safe manner. In the Meantime, here is a thoughtful response from my co-editor:

Hi Katherine,

Especially as one moves toward no till, as we have with our 3+ acres of vegetables and small fruits, the topic of invasives becomes more and more a consideration on our farm. We have an infestation of Bishops weed in parts of our gardens, and of course burdock, yellow dock, thistle, grass and all the other perennials that have figured out how to grow fast and heartily.

For a minute we should stop and remember that all of these plants have a purpose and that particularly with plants that we call invasives, they come in to repair injured or played out land. They can photosynthesize faster than their neighbors and have found strategies to stay put once they get a toe hold. So first we need to celebrate that they are providing incredible ecosystem services for our land and our atmosphere in their carbon sequestration and support of the important soil micro-organisms that work so well with them.

That said, diligence is the only practice that I can think of that works to keep them at bay - and let’s not eradicate them - because diversity is a good thing, and likely they know better than we do how to work cooperatively in the environment for the benefit of more species. Clipping, moving, pulling (carefully) octaluting (shading), and finding animals to raise that like to eat them are my favorite methods. And my favorite tool to keep handy is a “rogue hoe” because they are heavy and sharp and do the job quickly.

But in the end, I think that if we think of invasives as worthy adversaries in the game of life and survival, and appreciate them and their place in the world, we will no longer feel like worthless pests but an enjoyable gaming partner that helps us see more broadly around ourselves and become more of a partner with nature. -- Julie Rawson, Many Hands Organic Farm

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The Natural Farmer

The Natural Farmer is a quarterly membership journal of the Northeast Organic Farming Association. You may join NOFA through one of the seven state chapters linked at www.nofa.org

We plan a year in advance so those who want to write on a topic can have a lot of lead time. The next 3 issues we are planning are:

Winter 2019-20: Glyphosate

Spring 2020: Organic Cannabinoids

Summer 2020: Invasives

If you can help us on any of these topics, or have ideas for new ones, please get in touch. We need your help! The deadline for the issues are: Spring - January 31, Summer - April 30, Fall - July 31, Winter - October 31.

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Moving? The Natural Farmer will not be posted by the post office, so those who subscribe directly should send address changes to us. Most readers, however, get this as a NOFA member benefit and should send address updates to their local NOFA chapter.

Archived issues from Summer 1999 through Fall 2005 are available at http://www.library.umass.edu/special/digital/nfl. Also, more recent issues are downloadable (starting 3 months after paper publication) at www.nofa.org as pdf files. Finally, we also have many issues archived in convenient downloadable form at www.thenaturalfarmer.org

Jack Kittredge and Julie Rawson, editors

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Hi Sue, 

Thanks for your note. We took some heat from folks who thought we should spay our cats and not produce any more kittens. Their argument was the suffering of excess cats. I see yours is bird deaths.

No question cats are killers. That is what we want them for, mostly rats, although we will take the rabbits, shrews and voles too. You see we keep them to protect our grain, which rodents are notoriously good at gnawing into and devouring unless you have a feline ready to catch them in the act. The birds are pretty to watch and listen to, I agree. And we seem to have a lot around despite our cats. But some species of birds do eat a lot of earthworms, which we prize.

Short of being a speciesist (not sure of the spelling of that one!) I would argue that nature balances these things and makes sure just enough of each species survives to make the world we love.

After all, you know (if you watch Alfred Hitchcock) what the world would be like with too many birds! -- Jack

To the Editor:

Just wanted to reach out and encourage the gentleman who was interested in growing cotton (letters to editor, summer issue). I’ve grown a small crop in my greenhouse for many years and taken it through harvest to thread and then cloth. It is a beautiful plant when it blooms, with large hibiscus-like flowers, and certainly doesn’t suffer from boll weevil in New England. Seeds for many varieties are available from Southern Exposure Seed Exchange and are easy to save and replant. I have also grown flax, which is a much more traditional textile crop for our area, but requires a retting process and LOTS more tools to process. I much prefer cotton. He’s welcome to contact me for growing advice - jmrf@hotmail.com.

-- Jacqui Marsh

Thanks, Jacqui

I would not have thought it was so easy to grow here. I would not be surprised if you get some questions from new enthusiasts. Thanks for volunteer-ing to give advice! -- Jack

Hi Amy,

Farm cats are more than pet animals who can’t tolerate living in a home. We need them for the same reason farmers have needed cats for millennia — to keep down the rodent population. We store grain here, as do many farmers, as feed. That attracts rats and without cats soon the farm would be infested with dozens of rats. That would be a public health problem, involve our town, perhaps making it impossible for us to farm.

So few people in America are farmers these days that I am not surprised that not more are aware of the need for cats on farms. It is not the same kind of instinctive about survival. Our experience with shelters is that they do not understand or support farm animal life. When we approached a shelter for a farm dog the price was between $400 and $500. I don’t know what cats would cost, but such prices are unrealistic for farmers needing several and likely to lose one or two in a year. That could easily run to a thousand dollars or more, which I am sure you would agree is prohibitive.

I think we will stick to the system nature provided and agriculturalists have adopted for thousands of years — having farm cats and maintaining them by natural increase, just like other farm animals. I appreciate your concern and hope this note explains some of our thinking. We are happy to supply excess cats to either other farms or our pet-loving friends. If they wish to neuter and otherwise treat them, it is certainly their right. I do not think farmers should be required to do so, however, so long as our agriculture is based on grain crops and rats and other grain-eating animals will need to be controlled.

-- Jack

Dear Jack and Julie,

I understand and respect your nurturing instincts and appreciate the cuteness of young critters.

I have similar enthrallment with the birds in our environment. The Dawn Chorus has become dimmer in the last few decades and is greatly missed. There are varying figures on the role of bird deaths by cats, but all are disturbing:

- Cats that live in the wild or indoor pets allowed to roam outdoors kill from 1.4 billion to as many as 3.7 billion birds in the continental U.S. each year, says a new study that escalates a decades-old debate over the feline threat to native animals.

The estimates are much higher than the hundreds of millions of annual bird deaths previously attributed to cats. The study also says that from 6.9 billion to as many as 20.7 billion mammals — mainly mice, shrews, rabbits and voles — are killed by cats annually in the contiguous 48 states. The report is scheduled to be published in Nature Communications.

I hope this will be part of your picture as well. -- Fondly and respectfully, Sue Coles

The Natural Farmer

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The Natural Farmer
**News Notes**
compiled by Jack Kittredge

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**Cutting Carbon from Transport and Energy**

- *Source: Politico, August 2, 2019*

> "Not Enough" IPCC Finds

A leaked draft of a report on climate change and land use, which is now being debated in Geneva by the Intergovernmental Panel on Climate Change (IPCC), states that it will be impossible to keep global temperatures at safe levels unless there is also a transformation in the way the world produces food and runs its industries. Currently agriculture, forestry, and other land use produces about a quarter of greenhouse gas emissions.

In addition, about half of all emissions of methane—one of the most potent greenhouse gases, come from cattle and rice fields, while deforestation and the removal of peat lands cause further significant levels of carbon emissions. The impact of intensive agriculture—which has helped the world’s population soar from 1.9 billion a century ago to 7.7 billion—has also increased soil erosion and reduced amounts of organic material in the ground. In future these problems are likely to get worse. “Climate change exacerbates land degradation through increased rainfall intensity, flooding, drouth frequency and severity, heat stress, wind, sea-level rise and wave action,” the report states.

It is a bleak analysis of the dangers ahead and comes when rising greenhouse gas emissions have made news after triggering a range of severe meteorological events. These include news that:

- Arctic sea-ice coverage reached near record lows for July;
- The heatwaves that hit Europe last month were between 1.5°C and 3°C higher because of climate change;
- Global temperatures for July were 1.2°C above pre-industrial levels for the month.

**source: The Guardian, August 3, 2019**

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**Democratic Field Brings Ag into Climate Debate**

When South Bend, Ind., Mayor Pete Buttigieg was asked about climate change during the first round of Democratic debates in June and he brought up soil, of all things, it took some by surprise. “Rural Americans can be part of the solution instead of being told they’re part of the problem,” Buttigieg said.

> “With the right kind of soil management and the other kinds of investments, rural America could be a huge part of how we get this done.”

Now, as candidates roll out their climate plans and grid through more gladiator-style debates, it requires significant amounts of natural gas, both as a fuel and as a feedstock for the energy-intensive chemical reaction necessary to produce the ammonia that makes fertilizer work.

It is well documented that this process produces carbon dioxide emissions. But a new study, conducted by researchers from Cornell University, the Environmental Defense Fund and other institutions, suggests that production of ammonia-based nitrogen fertilizer could also be emitting an estimated 29 gigatons—or 29 billion grams—of methane per year, far surpassing the Environmental Protection Agency’s estimates for methane emissions from the industry.

EPA’s current estimates indicate that the fertilizer industry’s methane emissions have likely been historically underreported. EPA’s existing estimate—which is based on numbers that the fertilizer industry itself reports—accounts for only 0.2 gigatons of methane emissions each year.

The researchers gathered their data through a pair of sampling trips in 2015 and 2016 in which they drove downwind of nine fertilizer plants in the Midwest in a Google Street View car “equipped with a fast-response and high-precision methane analyzer,” the study said.

They noted methane is only responsible for 10 percent to 25 percent of recent global warming, and only half of methane’s contribution comes from human actions. And they said the total methane emissions that escape from fertilizer industry plants represent a small portion of all methane emitted from the entire natural gas supply chain.

Still, they argued, the study calls into question the process by which EPA estimates the fertilizer industry’s emissions output.

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**Soil Pore Structure Key to Carbon Storage**

The findings of a Michigan State University study published last week in the scientific journal *Nature Communications,* suggest the importance of soil pore structure for stimulating soil carbon accumulation and protection.

Over a period of nine years, researchers studied five different cropping systems in a replicated field experiment in southwest Michigan. Of the five cropping systems, only the two with high plant diversity resulted in high pore size development. The researchers used X-ray micro-tomography and micro-scale enzyme mapping to show how pore structures affect microbial activity and carbon protection in these systems, and how plant diversity then impacts the development of soil pores conducive to greater carbon storage.

“One thing that scientists always tend to assume is that the places where the new carbon enters also are the places where it is processed by microbes and is subsequently stored and protected,” one author said. “What we have found is that in order to be protected, the carbon has to move; it cannot be protected in the same place where it enters.”

Scientists have traditionally believed soil aggregates, clusters of soil particles, were the principal loci for stable carbon storage. Recent evidence, however, shows that most stable carbon appears to be the result of microbes producing organic compounds that are then adsorbed onto soil mineral particles. The research further reveals that soil pores created by root systems provide an ideal habitat where this can occur.

PhD student Ashley Morey, the main author of the study, said the findings could help scientists better understand soil carbon storage across local, regional, and global scales.

**source: The Natural Farmer, Fall 2019**

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**Study Finds Residue of Pesticides, Antibiotics and Growth Hormone In Non-Organic Milk**

Results from a recent study examining what’s in organic versus conventional milk show that the majority of samples of conventional, non-organic milk tested positive for certain low, chronic levels of pesticides, illegal antibiotics and growth hormones. The organic samples tested at either much lower or non-existent rates in comparison.

> “To our knowledge, the present study is the first study to compare levels of pesticide in the U.S. milk supply by production method (conventional vs. organic),” the researchers noted. “It is also the first in a decade to measure antibiotic and hormone levels and compare them by milk production type.”

The study, conducted by Emory University in Atlanta, was funded by Washington, D.C.-based nonprofit research organization The Organic Center and looked at a total of 69 samples of conventional and organic milk samples purchased from retail stores around the U.S., which were then shipped overnight to Georgia to be analyzed. The results have been published online June 26 by peer-reviewed journal *Public Health Nutrition.*

According to the study, antibiotic residue was detected in 60% of conventional milk samples but not in the organic samples. Among the antibiotics detected in the conventional milk samples were sulfamethazine and sulfathiazole, according to the study. Both have been outlawed for use in milk-producing cattle. One conventional sample also contained levels of amoxicillin that were slightly higher than the FDA tolerance levels. Bovine growth hormone, or BGH, residue levels were found in the conventional samples at an average of 9.8 ng/mL, or 20 times more than in the organic.

Pesticide residues were found in up to 60% of conventional samples and none of the organic samples. Those included atrazine (26%), chlorpyrifos (59%), cypermethrin (49%), diazinon (60%), and permethrin (46%).

> “To what impact these chemicals that we’re seeing in the supply are having, we don’t know,” said Jean Welsh, a nutritional epidemiologist who proposed the Emory study, noting that, “this study wasn’t designed to look at that.”

Samples were “blindly tested,” meaning they weren’t specified as organic or non-organic until test results were finalized, Welsh said.

**source: USA Today, June 26, 2019**

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**EPA Could be Underestimating Methane Emissions from Fertilizer Production**

Production of a fertilizer that is used to help grow the vast majority of U.S. corn and cotton could have greater ramifications for the environment than previously government estimates indicated, a recent study has found.

Nitrogen fertilizer is nearly ubiquitous in the corn industry, where it is used on 97 percent of corn-growing acreage in the U.S., and it is applied on nearly 80 percent of cotton fields, according to 2016 USDA data. But making nitrogen fertilizer requires significant amounts of natural gas, both as a fuel and as a feedstock for the energy-intensive chemical reaction necessary to produce the ammonia that makes fertilizer work.

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Still, they argued, the study calls into question the process by which EPA estimates the fertilizer industry’s emissions output.
US Generates More Electricity From Renewables than Coal for First Time Ever
The US generated more electricity from renewable sources than coal for the first time ever in April, new federal government data has shown. Clean energy such as solar and wind provided 23% of US electricity generation during the month, compared with coal’s 20%, according to the Energy Information Administration.

This represents the first time coal has been surpassed by energy sources that do not release pollution such as planet-heating gases. April was a favorable month for renewables, with low energy demand and an uptick in wind generation. This means that coal may once again pull ahead of renewables during 2019, although the long-term trends appear to be set.

“The fate of coal has been sealed, the market has spoken,” said Michael Webber, an energy expert at the University of Texas. “The trend is irreversible now, the decline of coal is unstoppable despite Donald Trump’s rhetoric.”

At least 50 coal-fired power plants have shut since Trump took office in the White House in 2017. The falling cost of renewables and gas has caused coal to be dislodged as a favored energy source for utilities.

source: Guardian UK, June 27, 2019

Industrial Hemp Lures Farmers as Grain Profits Slump
Farmers hit by low commodity prices and a trade war with China are eyeing industrial hemp, which can bring a reported $750 per acre as opposed to soybeans at $150. Soy prices reached $1.1 billion in 2018 and are projected to reach $1.9 billion by 2022. Cannabidiol (CBD) is the most lucrative by-product, used for insomnia, pain and anxiety. Challenges include inexpensiveness in growing it, unclear government regulatory issues, expensive seed, and specialized harvesting equipment. Nevertheless, Kroger is planning a line of CBD balms and creams, and Ben & Jerry’s is looking to develop a CBD ice cream. Other CBD products include a CBD shampoo and body wash. Hemp is also making a new appearance in the food industry, with food makers like General Mills and Jerry’s looking at a CBD ice cream. Hemp seed oil is also making a comeback, with reports of $1.9 billion by 2022. Challenges include cost and market.

source: The Organic and Non-GMO Report, July/August 2019

George Siemon Steps Down at Organic Valley
Founding farmer and C-E-I-E-I-O George Siemon has stepped down at Organic Valley, the nation’s largest organic farmer-owned cooperative. It represents 2000 farmers in 35 states and produces $1.1 billion in annual sales of organic dairy, eggs and produce. Robert Kirchoff, who joined the co-op in 2016 as chief business officer, will be the interim CEO.

source: OEFF A News, Summer, 2019

Supporting Regenerative Organic Agriculture
The most technically sophisticated form of agriculture, designed to solve our future food and climate challenges? Or the most ancient, wise, and timeless way of growing? Regenerative organic agriculture is both. Based on a universal truth: that the seed, the plant, the soil, the animal on the land and the sky above, the person who raises the food and the person who eats it--make up one interlocking system. All-One! We can build rich soil, sequester carbon, retain water, provide healthy food, create biodiversity! Regenerate soil-farms-communities-planet-life—mitigate catastrophic change on Spaceship Earth! All-One!

source: OEFF A News, Summer, 2019
working people’s efforts to rise out of wage labor (or small farmers to keep from being crushed by rising transportation costs and falling prices) and achieve a better life.

He begins with a look at the indigenous communities that functioned, in contrast to individuals, as Native American productive units, exercising collectively owned land by groups of married settlers using the “ejidos” and made to groups of married settlers for use of land set aside for entire communities. These practices were based on customs in medieval Spain and also on the “calpulli” cooperative family system of the Aztecs.

But with the advent of European settlement based on royal land grants, property rights in land became a fundamental economic principle in the New World. In the Spanish colonies these grants from the 1600s often included community land grants called “ejidos” and made to groups of married settlers for use of land set aside for entire communities. These practices were based on customs in medieval Spain and also on the “calpulli” cooperative family system of the Aztecs.

As many scholars know, during the first three years of the Pilgrim settlement in Plymouth they farmed and worked communally, depositing their products in a common warehouse and taking from a common store. They were financed for their voyage here, however, by a group of merchants and were expected to deliver fur, timber and fish in return. They were to work for seven years to pay off their debts, and then all capital and profits would be divided equally among them. Relations quickly soured between the settlers and the investors, however. The latter failed to supply the new food, clothes and tools they promised, and the former demanded and got individual plots. Eventually the settlers bought out the investors and achieved self-government.

The economic history of the colonies and later the republic, according to Curl, was one of continual frustration for those seeking to enjoy the remarkable opportunities the continent seemingly provided. Apart from the obvious direct exploitation of African Americans as slaves, those who arrived as indentured servants or even free laborers found it hard to rise.

As he puts it: “The beginnings of industrialization under the capitalist system in the early 19th century forced an ever-growing number of workers to become permanent wage earners. Hand tool production soon became obsolete; the new machines and processes were both prohibitively expensive and could be operated only by ever-larger numbers of coordinated workers. While the vast productive power unleashed by technological advances promised freedom and plenty for all, numerous artisanal workers were left unable to make a living using the old tools, so had no choice but to find bosses and submit to becoming employees. Meanwhile, land costs skyrocketed: the road to independence as a small farmer was quickly being closed. Vast new areas were continually annexed to the fledgling United States but that enormous wealth went mostly for the further enrichment of a small number of land speculators, ultimately the same financiers who were behind the factories in the North and the plantations in the South.”

Many people’s response to such an oppressive reality is discussed in this remarkable account of efforts to join together in cooperative activity. Through era after era of American history, workers formed alternative economic and social institutions – stores, joint farm marketing groups, producer co-ops, employee associations, labor unions, credit unions, housing co-ops, political parties. Very few lasted long, but at the time they galvanized the energies of activists and leaders, keeping alive the knowledge that if things get bad enough there are alternatives available.

In the early days of the republic the New England Association of Farmers, Mechanics and Other Workingmen (NEAFMOW – 1831-34) and the National Trades Union (NTU – 1834-37) were formed, the former initially to fight for the 10-hour day (won in Philadelphia in 1835 as a result of a strike of 17 trade unions paralyzing the city) and the latter to fight speculation and open cooperatives in a number of trades like shoemaking, tailoring, cabinet making, hatting, and saddling.

“Before 1860,” Curl writes, “individual ownership and partnerships were still the most common forms of business, but cooperatives began to dominate in areas of the economy that required increasingly largercapital outlays, particularly textiles, iron, coal, and railroads. Besides providing companies more capital without really forcing them to relinquish control, incorporation provided limited liability and many tax benefits…Unions grew fast in the years following 1842, after a judicial decision finally declared they had a right to exist at all.”

Cooperatives were still struggling to find a legal framework that enabled democratic control of the venture but allowed for growth and dynamic management. The success of the British Rochdale store finally led Americans to adopt the Rochdale system for consumer cooperatives by the time of the Civil War. And, of course, the contest between Southern slave owners and Northern factory owners over whether the vast Western lands should be slave or free dominated all economic issues by 1860.

The forces released by the Civil War changed the country forever. The Homestead Act of 1862 gave open millions of acres for any citizen or intended citizen who had never borne arms against the country to qualify for free land by living on it and proving it for five years. Although much of the land ended up in the hands of railroads and speculators, still 1 in 10 families who went to settle the West actually ended up with a free homestead.

But the larger forces of development required more and more capital for success. Waves of strikes and cooperative development alternated with failures and retrenchment caused by financial panics and resulting unemployment. The Grange and the Knights of Labor were among the cooperative triumphs of the post Civil War period, but the depressions of 1873, 1883, 1893, and 1899 saw the destruction of most of the gains.
The Natural Farmer

Fall, 2019

The Populist movement for a time seemed to be succeeding in the Midwest and prairie states with the election of governors and legislators sympathetic to the movement, but federal power and the courts continually frustrated their legislative measures. Agricultural unions like the Wobblies, radical political leaders like Debs and Thomas, farmer movements like the United States Farmers National, the Midwest’s Non-Partisan League, and the founding of the Cooperative League inspired millions, but World War I and the conservative reaction to Bolshevism galvanized the right to increase repression and strike-breaking.

It wasn’t until the Great Depression and the advent of the New Deal and the New Deal that popular energy was again ascendant. The Congress of Industrial Organizations (CIO), socialist groups like Upton Sinclair’s End Poverty in California, the Southern Tenant Farmers Union, and Individual Banks for Cooperatives all again enabled common people to organize, often led by dedicated radicals.

World War II served, as had the Great War, to unleash huge productive forces and re-write the economic realities. For a time organized labor, multi-national corporations and big agriculture seemed to guarantee prosperity for all but black tenant farmers, Hispanic agricultural laborers, and the urban unemployed. But the now global industries began to export manufacturing jobs to low-wage nations, and American wage-earners soon felt the pinch. Once again local cooperatives have taken up much of the economic energy for change, and currently represent significant employment numbers (Curt includes non-profit associations in his rather wide-ranging definition of “cooperatives”).

Most of this remarkably detailed recounting is a straight narrative history of facts and events without Curt putting in much of his own analysis. In his conclusion, however, he draws together some common threads of several hundred years of cooperative endeavors to examine and draw lessons from this material. I found this the most interesting part of the book – looking at the kinds of people involved, what they are trying to achieve, how they set about doing it, and why so many failed.

Regarding who they are, he says: “The tapestry of US history is woven with the day-to-day struggles of hundreds of millions of ordinary people for better lives. Mutual-aid organizations such as cooperatives and unions have always been near the heart of those struggles. The differences between the rural and urban populations have been more apparent than deep. Most of the families in the farm communities of the Midwest and West were formerly urban people from the East, drawn there by the offer of prosperity, people who stayed on the land. Their struggles as farm workers have reaped a strategic harvest of new cooperation and who stayed on the land. Their struggles as farm workers have reaped a strategic harvest of new cooperation and who stayed on the land. Their struggles as farm workers have reaped a strategic harvest of new cooperation and who stayed on the land.”

Of course the decisions and actions of these people when joining together are heavily influenced by their economic environment. Sometimes these conditions can lead to paradoxical activity!

“Cooperative movements in America,” he points out, “have always risen and fallen with the turns of the economic cycle. When money is scarce in hardening economic times, cooperatives have experienced a surge in membership, but the hardest of times have also killed them. Worker cooperatives have often been formed during economic downturns, when workers can gather enough resources to try to make a go of it. Yet, during periods of general prosperity, people have also tended to explore more individualistic options, and have abandoned cooperation and social movements.”

Curt treats the difficult question of co-op success rates frankly.

“The beginning of this study asked why there are so few worker cooperatives. Hopefully, this history has shed some light on the answer... Numerous worker cooperatives have been organized over the last 200 years, and most have ultimately failed. Are there flaws inherent in the concept or structure that make them hard to make work? Individual cooperatives, like any human organization, ultimately fail. In this, they are no different from any individual business. The majority of solo new businesses fail in their first year. Standard advice to startups is to not expect a profit for the first two years.”

But the economic environment is not always equitable.

“The tax laws and the money system offer businesses and corporations – particularly large corporations – numerous economic advantages that they do not offer to worker cooperatives. Since the beginning of the industrial revolution, most work has been increasingly dominated by costly technology, and worker cooperatives almost always begin small and under-capitalized, and involve people with undeveloped business skills.”

Often when co-ops are successful, there has been governmental support.

“In times of crisis the American people have repeatedly turned to mutual aid, and have called on government for support. When the economic system has stymied them, they have formed political organizations to try to change the rules of the system. The New Deal’s promotion and support of cooperatives and worker cooperatives almost always begin small and under-capitalized, and involve people with undeveloped business skills.”

Curt concludes with his own critique and ultimate faith in cooperation.

“People who are looking for a structural panacea for all the world’s problems are barking up an empty tree... Each new generation creates structures to solve its needs, not mimicking some ideal forms, but always in an intensely practical relation to the actual situation on the ground... Worker cooperation has always been close to the heart of America. It has been our common past, our heritage, and can become our common future.”

This volume also includes 19 pages of wonderful (but small) photos of many of the figures mentioned in it, as well as contemporary posters, political cartoons and other illustrations of the events covered. I was fascinated by the 1892 electoral map of the country showing the votes for Populist presidential candidate James Weaver. He won five states outright, garnering over a third of the votes in four! Also of interest are photos of the legendary triumvirate of Gene Debs, Big Bill Haywood, and Mother Jones.

Freedom Farmers: Agricultural Resistance and the Black Freedom Movement

By Monica M. White


Freedom Farmers is an interesting amalgamation. In her introduction, professor White introduces a theoretical framework she calls “collective agency and community resilience” (CACR). Although it was a little hard for me to wade through the verbiage, I think collective agency refers to a group of people acting out of a belief in their mutual success, and community resilience means community-based forms of social organization that respond to natural and human-induced disasters.

White then uses this framework to look at African American practices connecting land, food, and freedom. Although focusing on the Southern Cooperative Movement of the late 1960s through 1974, she sees early slave gardens at the time of the Middle Passage as good examples of CACR: independent production grounds controlled by slaves representing a strategy of resistance to a corrupt system and an effort to create food security.

Once this framework is established she takes it and applies it to a number of historical efforts by blacks to build democratic institutions, usually connected to agriculture, which serve their community. In Part I Tuskegee is discussed, as are the work and views of Booker T. Washington, George Washington Carver, and W.E. Burgh. And she explains how best blacks can elevate themselves. This detailed discussion of the success and growth of Tuskegee, the research and discoveries of Carver, and the strong belief of Du Bois in black cooperatives as vital to Negro progress was fascinating to me. Also included were some excellent photos of the very early days at Tuskegee.

In Part II, White examines four efforts that she identifies as CACR in Action: Fannie Lou Hamer’s Free Farm Cooperative in Mississippi, the North Bolivar County (Mississippi) Farm Cooperative, the Federation of Southern Cooperatives, and the Detroit Black Community Food Security Network.

These are short sketches, focusing on the oppression these communities suffered and the ways collective action strengthened their ability to resist.

The book concludes with a short discussion of the importance of land and agriculture to black consciousness during the civil rights movement. The role of black farmers in providing the meeting spaces, the lodging, the food, the transportation and all the other support systems required for sustained community work was crucial. That urban organizing focuses on community gardens, Black Panther programs on feeding children, and Southern cooperatives on buying cropland is no accident.

I appreciated that White stresses the importance of the Southern civil rights movement, the one among all those blacks who resisted the Great Migration and stayed on the land. Their example as farmers to invent cooperative ways to raise crops, buy necessities, sell products and build collective wealth can inform all of us.
The Natural Green Pages: Green Your Life, Green the World (annual publication) published by: Green America, 1612 K Street NW, Suite 600, Washington, DC 20006 GreenAmerica.org

available with a membership or free at GreenPages.org

review by Alan Eddy (member of Green America since 1983, active in NOFA since 1986)

I know what you are thinking: “I don’t want to READ ABOUT sustainability, I want to DO SOME-THING.” I feel the same way. Well, the good news is that there is something you CAN DO — right now, without writing to Congress and without waiting for the next election.

The National Green Pages is an annual publication and also a website — GreenPages.org, produced by the activist membership organization Green America, active on a wide front of environmental and social justice issues, such as clean energy, generative (organic) agriculture, fair labor practices, and non-toxic chemicals. It was formed in January 2009 by the renaming of Co-op America.

When you join the organization, you can opt for digital or hardcopy delivery of their publications: the annual National Green Pages (128 pages of green businesses) and the quarterly newsletter Green American.

The National Green Pages itself is a treasure trove of green businesses trying to grow the green economy. You can vote with your dollars by patronizing these businesses. Don’t take my word for it — explore the website and see what is there: GreenPages.org.

Organic farmers can compete with organic agribusiness by selling directly to organic consumers through our own distribution networks. Green

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America is an umbrella organization of dozens of local and regional networks. There are also many businesses that sell nationwide online or via mail order.

Informational articles in the 2019 edition include: “Hundreds of Tips to Green Your Home and Life,” “Find Safe Cleaning Products,” “How to Go Green on a Budget,” and “Invest for a Greener World.” Green America has evaluated 8,000 businesses and promulgated 42 industry standards for green enterprises.

The Greenhouse and Hoophouse Grower’s Handbook: Organic Vegetable Production Using Protected Culture
by Andrew Mefferd
published by Chelsea Green Publishing, 2017
$39.95 cover price, paperback (available on Amazon for $26.46)
review by Richard Robinson, farm@hopestill.com

I try to start my tomatoes extra early, and know I risk inducing “transplant shock” in some portion of them when I begin transplanting into my unheated hoophouse in mid-April. This spring, with the first batch I was scrupulous about covering them at night with several layers of row cover, but got a bit lazy with the later transplants, because after all it was already May and I was growing inside, so really, they should be fine. Here in southern New England, the entire month of May was cold and cloudy, and although they survived, still to this day (I am writing in mid-July) many of those later transplants haven’t taken off—they are thin, knotty, and stunted, and sporting early fruit clusters that will be their down-fall, unless I snip them off. Meanwhile, the tomatoes I transplanted the earliest, and pampered through their first several weeks in the ground, are taller than I am and bearing gloriously.

Andrew Mefferd has written a book that explains exactly what happened—why I succeeded with the early group and failed with the later ones, and how I might have avoided failure by preventing the temperature swings my poor later transplants suffered. Early chilling sends tomatoes (and many other plants) into a “generative” mode, concentrating on setting fruit at the expense of growing the vegetation to support it. Steady—and high—temperatures early in life promote a more “vegetative” mode, exactly what my early transplants got, snug under row cover for the first several weeks of life.

“The Greenhouse and Hoophouse Grower’s Handbook” explains how those of us growing in “protected culture”—a term encompassing both heated and unheated structures—can get the most profit out of our houses by growing eight high-value crops—tomatoes, peppers, eggplant, cucumbers, and “the leafy crops—and manipulating their environment: temperature, humidity, and even CO2 levels—to maximize their yields.

Mr. Mefferd has the background to present this information with authority. He is a grower himself, in Maine, and for seven years conducted greenhouse variety trials for Johnny’s Selected Seeds. He has also extensively toured high-production growing houses, especially in the Netherlands, which, tiny though it is, is the world’s largest exporter of fresh vegetables. Those eggplants you eat in April probably come from Holland.

The book provides some basic information on the structures themselves, but newcomers will want to look elsewhere for more details on siting, choosing a design, and erecting their first house. Instead, Mr. Mefferd goes deep into the details of propagation, grafting, transplanting, and most especially, environmental control.

For any hoophouse or greenhouse grower, the book contains a wealth of practical information that is likely to increase your profits if you apply it. For instance, I didn’t know that diffused light is superior to direct sunlight, because it provides more light to lower leaves, and can keep upper leaves cooler, increasing photosynthesis for both. Plastic films with greater diffusivity may be superior to glass in this respect. A light ground cover, such as white plastic or straw, will also spread out incident light and increase productivity.

For those interested in trying their hand at grafting, or are wondering what all the fuss is about, there is an entire chapter—26 pages—on the why’s and especially the how’s of grafting tomatoes, and a bit on other crops as well. “Grafting is the most important development in tomato growing since the commercialization of tomato hybrids in the mid-twentieth century,” he writes, for the benefits it can bring in yield and disease resistance. After reading the chapter, you would probably be ready to try your hand at it, if you had a mind to.

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Temperature control is at the heart of the highly productive Dutch system, and is a major focus of Mr. Mefferd’s book as well. He provides an extensive discussion of the effects of different temperature regimens, and the benefits of control, the tighter the better. For tomatoes, seeds germinate best at 80-82 F. Seedlings grow best at a flat 67 F, which should be elevated to 73 F for the week after transplanting, to provide vegetative growth. Once production begins, daytime temperatures should be 75 F, and nights 65 F. Once in full swing, daytime temperatures should be a few degrees higher. And if those temperatures seem low to you, well, Mr. Mefferd explains why they aren’t. He also provides interesting ideas about manipulating temperature to “steer” plants toward more vegetative or more generative growth modes.

Hoophouse growers will immediately recognize the challenge of this degree of control; in a house without supplemental heat, the nighttime low is often close to or at the outside temperature. Mr. Mefferd recognizes this challenge; indeed, he is a hoophouse grower himself. Nonetheless, the tomato wants what the tomato wants, and it behooves us as growers to know what it wants, even if we can’t supply it perfectly.

This gap between the ideal and the practical for those growing without heat leads me to my only real criticism of the book—I would have loved to see the author directly address the sometimes enormous differences between hoophouse and greenhouse growing more often and more directly, and to spend more time addressing the needs and challenges of us hoophouse growers explicitly, rather than (as one can certainly do) having to tease out one’s own solutions from the information provided. “Protected culture” is a good phrase, but there are some fundamental differences between heated and unheated structures that it glosses over. Perhaps in the next edition, Mr. Mefferd might provide us more guidance, or perhaps I just need to read the book through once more—it certainly has the depth of information to justify a second or third reading.

The book also doesn’t address in much detail the issues that heating a greenhouse in New England raises, both financial and environmental. This is perhaps understandable since the cost/benefit calculation depends on both local conditions and personal values, but it leaves the grower without any practical guidance for making that calculation on their own.

Is this book for you? It should be, if you grow in a greenhouse or a hoophouse, or hope to. You are likely to learn a few things, probably many things, you didn’t know before, and it will likely repay your reading time many times over. I will need to action to save the book through once more—it certainly has the depth of information to justify a second or third reading.

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Protecting Pollinators: How to Save the Creatures That Feed Our World

by Jody Helmer

Published by Island Press, 2019 https://islandpress.org/$28.00, paperback, 220 pages

review by Sanne Kure-Jensen

Increasing media attention has focused on shrinking insect and pollinator populations. In this thoroughly researched book, Jody Helmer describes our dangerous situation and recent efforts to restore pollinator populations. The author quotes numerous research studies describing issues facing pollinators, successes and challenges of habitat restoration for native (wild) bee and pollinator populations as well as the dangers of neonicotinoids. The book’s final chapter focuses on citizen science opportunities to collect valuable data. Helmers table called “Twenty-Nine Ways You Can Help Pollinators” offers a checklist for helping pollinators in residential yards, on city balconies or community gardens with pollinator-friendly plantings.

Helmer said thankfully, “Farmers, gardeners, businesses, non-profits and eaters alike are stepping up to save the creatures that feed our world, planting habitats filled with native species, avoiding chemicals, participating in citizen science projects and spreading the word that pollinators are in trouble and we need to take action to save them.”

Iconic honeybees and monarch butterflies represent threatened pollinators. Insects with less WOW appeal—like hoverflies or hawkmoths—are often ignored in pollinator discussions. Children and adults rarely engage with plain insects lacking colorful anatomies or enchanting stories of long migratory journeys.

The impact of declining pollinator populations is enormous. “Worldwide 200,000 different species tackle the task of pollination: vertebrates such as birds, bats and small mammals make up a small percentage of the global pollinator population, while invertebrates such as flies, butterflies, beetles, moths, and, of course, bees make up the rest,” according to Helmer.

Pollination contributes $557 billion to global food production each year. In the past five years, the volume of pollinator-dependent fruit, seed and nut crops have tripled to about 150 crops in the United States. Helmer wrote, “Almost 90 percent of flowering plants and 75 percent of food crops depend on pollinators.”

Non-honeybee flower visits account for half of pollination.

North America has over 4,000 species of native bees. A 2017 study by the Center for Biological Diversity rivalled local and other pollinator species studied risk extinction while half those studied have declining populations.

If fewer fruits, seeds and nuts are pollinated, humans will not suffer alone. Herbivores like deer and wild turkeys and whole ecosystems will decline.

Dangers to Pollinators

Helmer writes “Scientists site global warming as one of the greatest anthropogenic disturbance factors imposed on ecosystems.”

Day length or temperature drive plant growth stages as well as insect and animal mating, egg-laying and migration. When climate change brings earlier spring temperature changes, plants may emerge or bloom earlier. Their pollinator hatch or migration may fall out of sync. Early spring blooms mean increased risk of frost harming blooms, insects and other pollinators causing reduced fruit yields, pollinator volume and ecosystem health.

“You may think that climate change would have positive effect because of longer seasons, but it really means their first flight in a season where there aren’t enough flowers for the bees,” said Jane Ogilvie at the Rocky Mountain Biological Laboratory.

Moving honeybees around for pollination services stresses bees and spreads diseases to wild bee populations. Working monoculture blooms or non-diverse areas weakens bees’ immune systems; they are less able to resist parasites and diseases.

While the number of beekeepers is rapidly increasing nationally, up to 70% of all new beekeepers fail or quit within two years. Novice beekeepers may inadvertently allow diseases and pests to spread to otherwise healthy hives or wild populations.

Migration patterns are changing in many species. Some birds leave winter habitats earlier, make more stops along the way and face increased competition. Populations at southern ranges may move to higher elevation for cooler temperatures. Northern range dwellers may not move north leading to greater resource competition.

Other species have already stopped migrating. Some Texas bats risk a loss of genetic diversity by not breeding with other bats along migration routes.

Climate change is expected to accelerate the speed of invasive plants. They sprout and bloom earlier, shade out native plants, and spread salt or nitrogen as climate changes. “Species that reproduce quickly and have a lot of genetic diversity tend to be the most resilient to changing climate,” explained Helmer.

Noxious weeds and invasive plants displace native species, may create pesticide and lower plant and pollinator diversity. Shallow rooted invasive plants increase erosion risks. Invasive vines shade forest soils causing tree and understory decline and can lead to loss of beneficial insects.

Bowing to chemical company lobbyists, American political leaders continue to allow widespread use of harmful agricultural chemicals while offering a token effort to help pollinators.

Introduced in the 1990s, neonicotinoids are a family of systemic insecticides that protect crops from root- and sap-feeding damage from aphids and grubs. Neonicots are now applied to more than 140 crops in 120 countries including 80-95% of corn and about 50% of soybeans.

This systemic toxins linger in plants and soils for weeks. Toxin levels high enough to kill honeybees have been found in pollen and nectar up to seven weeks after spraying plants with neonicots. Crop insurance requires farmers to use treated, coated seeds as a management tool even though independent research shows seed treatments with neonicots offer little protection from pests but pose risks to soil and ground water.

Even small, non-lethal neonic doses have been shown to impair bumblebee learning, their sense of direction and communication with fellow bees. Researchers found queen’s ovaries damaged and/or queen deaths.

A study of nearly 750 hives confirmed honeybees brought back up to 118 different chemicals -- herbicides, miticides, insecticides and fungicides -- which they picked up on their rounds. Researchers found high concentrations of neonicots in insect-eating birds who visited treated flowers and consumed dosed insects. Bio-accumulators like bats weakened and become vulnerable to disease after eating tainted insects.

Since 2016, there is a growing threat to pollinators posed by Monsanto’s crops resistant to Round-up and Dicamba. According to “Menace to Monarchs,” a report by the Center for Biological Diversity, Dicamba will be used on 60 million acres of maize, corn and soy in 2019 and 2020. Monarch habitat in 2019 and another 9 million acres may be affected by Dicamba drift.

Helmer urged growers to use more Integrated Pest Management (IPM) practices:

- Spray only when critical threat levels are reached
- Spot treat rather than spray everything
- Rotate crops
- Shift sowing dates
- Use non-chemical approaches like biocontrol first

Since 2015 captive butterfly breeding and mass releases have been reported to spread disease to wild
The Natural Farmer

Populations. A common pathogen affecting monarch butterflies causes shorter wings, smaller females, fewer offspring and fewer monarchs arriving at wintering sites.

Helmer writes, "Honeybees are not the only pollina
tors in need of sanctuary. Butterflies, bats, birds, and many other species can’t make their homes in corn
fields or between the blades of grass in suburban lawns; the habitats taking over our landscapes are inadequate for species to rest, nest and feed, leaving pollinator struggling—and often failing—to adapt to shrinking habitats."

Efforts to Help

"Agroecology is one of the major pressures on pollinator health, so we need to engage farmers to be part of the solution," said Eric Lee-Mader of the Xerces Society for Invertebrate Conservation.

Under the USDA’s Conservation Reserve Program (CRP) farmers are paid annual rent to convert eco-
sensitive land into grassland and pollinator habitat instead of cash crops.

Healthy pollinator habitat can function as crop insurance. When planted in a ratio of 1 acre of habitat to 2 acres of cropfield, farmers can find better yields and quality, especially around fruit crops requiring pollination (from native bees). Especially important to organic farmers, pollinator habitat at-
tracts and shelters beneficial insects for pest control.

University of Michigan research found establishing pollinator habitat cost $400 to $800 per acre. With increased blueberry yields, payback was less than four years.

University of Texas at Austin research found in-
creased diversity of natural pollinator habitat and
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The "Tequila Interchange Project" formed in 2010 to encourage sustainable agave production benefit-
ing threatened long-nosed bat populations. By al-
lowing at least five percent of agave fields to bloom, bats found nectar and populations rebounded off the Mexican endangered species list. To support their projects, look for "Bat Friendly" tequilas.

Many public libraries have seed libraries with pollinator-friendly seeds.

Since 2016, nearly 75 percent of garden center retailers have committed to phasing out neonic use. Bee-friendly labels command a premium, but now that they have nectar, pollen, water and sites for mating, nesting and undisturbed overwintering. Growing native plants will be "far more effective than beekeeping," said Lee-Mader. Helmer agreed, urging readers to create habitat with a wildflower or pollinator-friendly garden. This will be more satisfying, offer better results over traditional gardens and offer lessons on the natural world.

Helmer’s book included a helpful checklist, bibli-
ography and research studies. The Xerces Society for Invertebrate Conservation's website (www.xerces.org) offers regional native plant lists.

Native plants restore ecosystems, reduce erosion, improve water quality, use less water, and are better adapted to local conditions, animals and insects. Long-lived species store more carbon. Diverse na-

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Native plants restore ecosystems, reduce erosion, improve water quality, use less water, and are better adapted to local conditions, animals and insects. Long-lived species store more carbon. Diverse native plantings are resilient and support pollinators and other wildlife all season long. Increasing development destroys pollinator habi-
tat; Helmer reminds readers we should all restore habitat in our yards, gardens and containers as well as in public spaces. Fancy gardens are not needed, pollinators only need nectar, pollen, water and sites for mating, nesting and undisturbed overwintering.

Growing native plants will be “far more effective than beekeeping,” said Lee-Mader. Helmer agreed, urging readers to create habitat with a wildflower or pollinator-friendly garden. This will be more satisfying, offer better results over traditional gardens and offer lessons on the natural world.

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## Organic & Non-GMO Farm Seed

<table>
<thead>
<tr>
<th>Cover Crops</th>
<th>Forages</th>
<th>Silage</th>
<th>Small Grains</th>
<th>Corn &amp; Soybeans</th>
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<tbody>
<tr>
<td>alfalfa</td>
<td>lupin</td>
<td>ryegrass</td>
<td>sorghum-sudan</td>
<td>sunflower</td>
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<td>barley</td>
<td>millet</td>
<td>slinfin</td>
<td>soybean</td>
<td>sweet corn</td>
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<td>bromegrass</td>
<td>milo</td>
<td>sunflower</td>
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<td>teff grass</td>
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<td>mustard</td>
<td>summer</td>
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<td>orchardgrass</td>
<td>turnips</td>
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<td>vetch</td>
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<td>phacelia</td>
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- Organic & Non-GMO Farm Seed
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- Small Grains
- Cover Crops
- Forages

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At our most basic level our practices to renew the soil relate back to fermentation.” The insights that Katz brought to the process of fermentation, from its origin to safety as well as understanding the term itself, was captivating. He mentioned that diversity is a key component inside of your fermenting foods and beverages but also in the fermented foods you consume. Lauren Judd from the Cornucopia Project in Peterborough, New Hampshire was inspired by Katz’s humble and personable message. “He made a really great point, in my opinion, that he is against any dogma or fanaticism around any part of trending food culture. I love the humility he brought to the subject and remembering our roots so that we are not sensationalizing what we do, but we are celebrating it and exploring it. Continuing to learn by innovating but also by reaching back to the knowledge of the past.”

Directly following the keynote was the much anticipated Organic Labeling Debate between Johanna Mirenda and Dave Chapman. Jack Kittredge was this year’s moderator and had this to say- “I thought the debate was very enlightening. I felt more respect for Dave after I heard all that he has been doing to hold the NOP to its mission. I thought Jo did an excellent job of defending the OTA and its work, but I was hoping she would deal with what I feel is the crucial question -- how can a trade association deal with increasing success and the resultant attraction of monied special interests? They will inherently push it toward permitting easier standards. The way NOFA farmers raise food is not cheap and most business interests want to maximize profit, not quality.” Though this big picture question remained unanswered, the audience left the debate feeling as though they had a better understanding of both sides of this important issue.

The expert insight on topics of great importance to the NOFA community continued with the addition of the Saturday evening plenary “Life Sustains Life: Microbes, Climate Resilience, and the Future of Food” with Dr. Kris Nichols. Dr. Nichols is Founder and Principal Scientist of KRI Systems Education & Consultation and former USDA scientist and Chief Scientist at Rodale Institute. She addressed the group of 150 on the topic of soil health and carbon sequestration. Her address covered the important facets that comprise the regenerative farming building blocks. Dr. Nichols spoke about how diversity was key, but through the lens of soil health. Using the human body as an example, she explained how it is a
diversity of things that build human health such as diet, rest and exercise. The same is true for the soil.

Sunday the conference was host to our first Teen Summit organized by Anna Gilbert-Muhammad, NOFA/Mass Food Access Coordinator, in collaboration with many urban farming and gardening groups from throughout the Northeast. “It is amazing to have so many youths come together. Their energy is wonderful.” Gilbert-Muhammad said. She was impressed by all the work each organization was doing and the passion the teens have. “They talked about the impact of being able to feed the families and residents of Home City Housing in Springfield, Massachusetts. The groundbreaking work Gardening the Community is doing regarding food justice is just inspirational.” Agnes Frias, a young attendee from Springfield, was pleased to be able to attend the Summer Conference to deepen her knowledge. “I am loving the Teen Summit. Last summer I was part of this program with Re-Green Springfield where an environmental engineer came all the way from California to teach us, and I am just so glad to be here now.” When asked what has been the best experience for her so far she remarked that the workshop on Ecology of the Garden was the most inspirational. “He talked about root systems and it led me to understand what I learned last summer at a bigger level. I am totally taking an ecology class next semester.” With more than 75 youths attending workshops, as well as panels such as “Hearing from Farmers of Color Doing Business” organized specifically for the Teen Summit, the energy was palpable. As Ibrahim Ali of Gardening the Community said, “We always enjoy bringing the youth to this conference, the workshops are always great. They are enjoying it, we’re enjoying it. It’s a great place to get inspired.”

Sandor Katz delivers a spirited keynote talk

A light moment at the debate on whether the National Organic Program is doing its job.

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