2020 NOFA Summer Conference

Taking Shape

by Jason Valcourt, Conference Co-ordinator

No to Low-input systems enhance biology for healthy soils and carbon sequestration

We are indebted to you NOFA stalwarts, some of you whom have been attending the NOFA Summer Conference for decades and have watched it evolve over the years. It is your presence at the conference that gives newcomers the sense of tradition that NOFA is built on. Your depth of experience and commitment to our shared values are what makes the conference so nourishing. Without this somewhat invisible transmission of tradition our agricultural movement would still light you up and that you’ll continue to keep the NOFA summer tradition alive.

Looking ahead to August 7-9, 2020. At the 46th Annual NOFA Summer Conference we will celebrate the theme Climate Solutions Are Grown In Soil with keynote Speaker Tim LaSalle. Tim is the Co-Founder of The Center for Regenerative Agriculture at the College of Agriculture at California State University, Chico, CA.

In the winter issue of The Natural Farmer we interviewed Tim and are enthusiastic to follow his exploration into why biology and No to Low-till systems seem to be the most efficient and profitable and also have great abilities to capture carbon on small and large scales. As Tim told us, “we need every farmer to solve the crisis we find ourselves in”. This is our belief as well and we look forward to having Tim join us in August.

In addition to our climate solutions theme, our program will be exploring various threads of the regional food resilience tapestry. Join in the discussions regarding different avenues for land access to increase our regional farming base or opening diverse market opportunities such as entering co-ops and contracts with institutions. And of course, there will be plenty of talk about strategies for increasing food production farm by farm, such as agroforestry, measuring the vitality of your pasture for grazing, and enhancing soil biological systems.

Workshops like Keeping Sheep Organically, Innovations in Cover Cropning to Control Weeds, Native Lawn Alternatives, Raising More, Better Food While Easing Climate Stress, IPM for Garden & Farm, Soapmaking 101 and Herb-Infused Bone Broth.

Some 2020 Highlights

Each year the summer conference welcomes over 800 people, some gaining first time exposure to amazing presenters and topics that are the core of the organic lifestyle. We will be hosting even more workshops outside this year, making use of the beautiful Hampshire College campus with workshops on working with draft horses, exploring wild edibles, identifying native pollinators and the powerhouse plants they love, and even a sheep shearing demonstration with the incredible Mary Lake out of Randolph Center, VT. Scout for pests at the Hampshire College Farm, perform a soil health slake test, or tour some of the cover cropping innovations at the UMass Amherst research farm.

2020 also brings a robust Seed Saving track with seed mavens such as Lia Babitch from Turtle Tree Seeds, Bill Braun from Ivory Silo Farm and Free Seed Federation and Hannah Traggis from Free Seed Federation. You can look forward to a good seed swap and a plethora of seed knowhow!

Our 2nd Teen Summit is taking shape and will once again welcome youth led groups from around the region to participate. This year the summit will host its own keynote speaker and continue to deepen the connection of regional youth groups to their shared wisdom and vision. In 2019 we had over 80 youth participating and look forward to another amazing event.

More programming will be posted online as we have it in place. Sponsors and exhibitor applications are available online and registration opens May 1st at nofasummerconference.org. Please email jason@nofamass.org with questions or ideas for the conference.

Soil and Nutrition Conference Recap

It is with great pleasure that I write that the Bionutrient Food Association (BFA), which I helped to found in 2010, is now partnering with the NOFA Interstate Council to send The Natural Farmer out to its membership.

The BFA has it’s roots in NOFA culture and community. Our first courses were run in collaboration with NOFA, and we have run numerous cources in collaboration with and presented at the conferences of all the NOFA state chapters. With a mission to “increase quality in the food supply” we have deep alliances with the organic community.

The 9th annual Soil and Nutrition conference was held in November, 2019 in Southbridge Massachusetts to great success. With four tracks across four days, we covered agronomy, nutrition, systemic solutions, and biochemistry and consciousness with full day, half day and 1.5 hour presentations.

As is the tradition at this conference, all presentations were recorded and are being made available for free online. As we work through the content, overlapping slides with audio we release on average two recordings per week. Join our youtube channel at BionutrientFoodAssoc or download recordings from the past 9 years at https://bionutrient.org/site/library/soil-nutrition-conference-archives

Some of the speakers and topics from the 9th annual conference are here to whet your appetite!

- John Kempf on The Future: Bringing Regenerative Agriculture Into the Mainstream
- Reginaldo Haslett-Marroquin on Building a Regenerative Ag Revolution
- Mark Cohen on Regenerative Systems for Sovereignty and Resilient Living
- Beverly Rubik on Wireless Radiation, 5G, the Environment, and Our Health
- Dr. Maya Shetreat, MD on The Dirt Cure
- Jordan Schmidt on Nature’s Facilitators: Micronutrients, Keys to Health and Healing
- Peter McCoy on The Value of Fungi in Regenerative (Agri)Culture
- Jim Olschman on Consciousness: A User’s Guide
- Cathryn Couch on Food as Medicine: Soil, Community & Policy
- Guido Mase on Interwoven Connectedness at the Heart of Health, Resilience, and Sustainability
- Olivier Husson on The Role of Redox Potential and Reduction-Oxidation Reactions
- Kathleen DiChiara, Jordan Schmidt on Why Does Restoring Nutrient Density to Our Food Supply Matter?
- Peter Bane on Organizing to Cool the Climate
- Ellen Brown on Funding the Green Transition with Public Banks
- Derek Christianson on Crops for Nourishment, Flavor, and Profit
- Kris Hubbard, Lisa Bloodnick, and Nate Kleinman on Seeds: Traditional Heritage & Wisdom, Future Biodiversity & Security
- Mark Shepard on Nutrient Density of Eco-Logical Food Systems

Mark your calendar, and register now for the 10th annual conference on November 13-15th 2020, again in Southbridge MA at soilandnutrition.org. -- Dan Kittredge
Letters to the Editor

A year-end thanks for all you do for the earth. The last Natural Farmer (Issue on Glyphosate) is a superbly wrought piece of journalism. Now I will just carry it with me instead of talking into random ears; it’s everything anyone who depends on the soil needs to encounter.

I especially liked Mr. Nadeau’s fable! Best wishes for a thoughtful new year.

Ann Hanscom

Thanks, Ann, for your kind thoughts. Mike’s article was our favorite also. Merry Christmas

Julie

The Natural Farmer

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

Summer 2020:
Invasives

Fall 2020:
Food as Medicine

Winter 2020-01:
Who Owns Science?

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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Duplicates? This journal is mailed to members of 10 different lists. If you are getting a duplicate copy you may be on more than one list. It is almost impossible for us to correct this as we get new lists each quarter. The best solution is to give your extra copy to a library or friend who would appreciate it.

Archived issues from Summer 1999 through Fall 2005 are available at http://www.library.umass.edu/asccl/digital/tnf. 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

The Natural Farmer

Hi, TNF. The debates on how to live one’s life and be sensitive to climate change seems to have taken a turn. It is but another example of scientists’ and environmentalists’ inability to communicate effectively. I am now seeing and hearing arguments that I must be at least carbon neutral or a carbon sequesterer in all things, like my diet, my farm practices, my transportation and the like.

I think this misses the point. We have not adequately addressed our reliance on fossil fuels—which has caused climate change. And yet people are already confusing the issue by telling me I must be sequestering carbon.

NOFA/Mass just wrote an article comparing the arguments of which diet is the best for sequestering carbon in the soil. Here is their bottom line: “So, to recap—if you want to eat in a manner that helps to ameliorate climate change, the diet is as follows:

• Learn the principles of carbon-sequestering farming and how they relate to your local ecosystem.
• Seek localized knowledge of your foodscape and get to know your local food producers.
• Choose foods that derive from the production systems that you are confident enhance biodiversity, support the work of arbuscular mycorrhizal fungi, and put carbon back in the soil.
• Prepare that food with love, and savor knowing how it was grown and the name of the farmer who is better able to keep stewarding that land because of your support.”

Now, I do a far amount of thinking on the subject and I must admit this is the most confusing list of instructions I have ever seen. How about we simply say, “Please eat as much locally-grown organic food as often as possible.” And if you want to make a difference on the whole, “Reduce your use of gasoline, diesel fuel, propane, oil and natural gas toward the goal of zero usage.”

If we simplify the message so everyone can understand it and offer reasonable solutions for reducing fossil fuel consumption, maybe we would need to do less ameliorating. As far as I am concerned, all these other arguments on how to live within carbon neutral parameters are just a bunch of smoke. And by confusing the issue, it affords contrarians the added fuel to delay a resolve to the climate crisis.

Jim MacDougall

Nutter Farm
Topsfield, MA 01983

Hi Jim, Thanks for writing. I think what the article meant and should have said more clearly was that in addition to minimizing emissions, one needs to sequester carbon. From the figures I have seen, even if all emissions ended today, we would be dealing with greenhouse gases for another hundred years, continuing to heat the atmosphere, acidify the oceans, thaw frozen tundra and release methane, etc. The gases have long half-lives and because of this emission their reduction alone is not enough anymore. I don’t think any sensible person would suggest sequestration alone can deal with the problem if we continue to emit the carbon dioxide we are at present.

Jack

The Natural Farmer Needs You!

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Jack Kittredge and Julie Rawson, editors

The Natural Farmer

Food Coordinator, Dairy and Livestock Education Coordinator, Certification Review Specialist, and most recently as the Education Director.

When not in the office, Bethany raises her four children and helps her husband on his family’s dairy farm in Pulaski, NY. You can reach Bethany at Beth@nofany.org.

Bethany Wallis

executive director, NOFA-NY

Raised on a pasture-based dairy farm, Bethany earned an Associate’s Degree in Agricultural Business from SUNY Morrisville and a Bachelor’s Degree in Dairy Science from Cornell University. Bethany was first introduced to organic agriculture while managing the CSA at Grindstone Farm.

Bethany joined NOFA-NY in 2006 and has since served in a variety of roles, including Conference

The Natural Farmer

Spring, 2020

Executive Director. But never fear, I won’t dis.
News Notes

The HIA has identified multiple points of concern with the IFR, but the association’s submitted comments focus on the concerns that they consider most pressing. The HIA believes that from the outset, the priorities and intentions of Congress appear to be misconstrued by the USDA.

“It was our hope and expectation that the USDA would take the initiative provided by Congress to properly setup hemp regulations — allowing for all legal parts of the plant, including THC content of 0.3 percent, to be cultivated, processed and put into commerce, providing benefit to the American Farmer and consumer simultaneously. However, it appears that the Drug Enforcement Administration is still deeply involved in what Congress clearly defined as an agricultural crop and specifically outside the purview of a controlled substance,” said HIA Vice President, Rick Trojan.

With the passage of the 2018 Farm Bill, hemp and tetrahydrocannabinol derived from hemp were formally removed from the Controlled Substances Act (CSA), ergo removing the Drug Enforcement Administration’s (DEA) authority over hemp. Yet, the IFR mentions the DEA 42 times within its 43 pages. The IFR brings the DEA into the picture again with another item of concern: testing and sampling. The testing and sampling methodology and protocols that are outlined in the IFR require DEA approved lab facilities. This requirement would devastate the CBD industry and the smokable hemp industry could be totally destroyed.

Another major point of concern for the HIA is THC measurements. According to the IFR, THC measurements are to include THC conversion for total THC, an item that was never contemplated by Congress. Furthermore, by relinquishing mandated measurements to the unnecessary threat of criminal and civil liability, growers could be found criminally negligent for hemp that tests over 0.5 percent THC, placing American farmers in the same classification as intentional criminals for environmental or other factors outside of a farmer’s control.

The HIA is emphasizing that stakeholders in the hemp industry cannot continue to be embroiled in the unjust, expensive, and tedious confusion and lawsuits caused by the refusal to implement the law as it was intended by Congress.

Please help us thank these Friends of Organic Farming for their generous support!
A global collaboration connecting soil, plant and human health

REAL FOOD CAMPAIGN

We believe in REAL FOOD
Food with the vital nutrients we need to prevent & reverse disease, and live our best lives.

We believe in REAL CHANGE
Clean water.
Farm viability.
Ecosystem regeneration.
Climate change mitigation.

REALFOODCAMPAIGN.ORG

What is quality in food?

We don’t know scientifically but together with Grower Partners we can find out. The Bionutrient Food Association has initiated the Real Food Campaign to make the nutritional density of food easily detectable.

In 2012 we had the idea to develop a handheld spectrometer to test food quality. By 2016 it seemed reality was catching up with our vision. In 2017 we built the first generation of our spectrometer. In 2018 we built a lab to test nutrient variation and by 2019 we built the platform to correlate nutrient density with environmental conditions. This is where we need you.

By 2022 we expect to have mass-produced consumer and farmer tools and definitions of quality for 100 crops publicly available along with an open data platform to support growers globally, to increase soil health, crop quality and farm viability.

WE INVITE YOU TO BECOME A GROWER PARTNER

We provide the tools and guidelines for data collection. In order to ensure data privacy we commit that whoever submits has the right to choose how it is used. Participating Grower Partners receive crop analysis of submitted samples, including minerals, secondary metabolites, Brix and spectral signatures. You also receive soil analysis including soil minerals, organic matter, biological activity, pH and spectral signature, food and soil quality markers for the entire community showing how your results stack up and a subscription to FarmOS farm management software.
(continued from page A-3)

was found to be harmful enough to humans that the US banned it from residential use in 2000. The Environmental Protection Agency (EPA), however, has continued to license it for agricultural uses.

Jennifer Sass, a senior scientist at the Natural Resources Defense Council, said in a statement that the Dow Chemical announcement meant "the end of chlorpyrifos is finally in sight."

"Ridding the American marketplace of this pesticide is a huge step, but it cannot be allowed to continue to threaten the health of kids in other global markets," she added.

source: the guardian.com, Feb. 6, 2020

The Philippines Has Rated 'Golden Rice' Safe, But Farmers Might Not Plant It

"Golden Rice" is probably the world’s most hotly debated genetically modified organism (GMO). It was intended to be a beta carotene-enriched crop to reduce Vitamin A deficiency, a health problem in very poor areas. But it has never been offered to farmers for planting.

Why not? Because Golden Rice has an activist problem, according to its proponents. They insist that the rice would have prevented millions of child deaths by now had it not been blocked by anti-science activists.

In particular, they single out Greenpeace, which has been vocal against approval of Golden Rice as part of its broader opposition to GMOs.

Greenpeace responds that its actions are not what has kept Golden Rice from reaching the market. In their view, even once scientific studies show the rice is still beset by problems that have little to do with activists.

Vitamin A is one of many nutrients lacking in the diets of the world’s poorest children. Vitamin A deficiency, or VAD, can cause blindness and even premature death.

The vitamin comes directly from animal products and indirectly from plants, which the human body can convert. But even so, it can be affected by VAD if the staple foods eaten are White rice grains contain no beta carotene. But it’s not rice’s job to provide vitamins.

Since rice is a poor source of vitamins and minerals, any child eating a rice-only diet will be sick. White rice will remain a staple food in the Philippines until the Vitamin A deficiency is unproven. As IRRI scientists themselves stressed in 2013, “It has not yet been determined whether daily consumption of Golden Rice will improve the Vitamin A status of people who are Vitamin A deficient.”

Vitamin A is fat-soluble, and children with VAD rarely have fats in their diet. Moreover, they usually suffer from gut parasites and infections that make it harder to convert beta carotene to vitamin A. Even the latest analysis of Vitamin A safety and efficacy by the research has yet to show that it will mitigate VAD. And by the time Golden Rice gets to undernourished children, its beta carotene level may be very low, since the compound deteriorates quickly.

Also, there is no clear way for the rice to get to the children who need it. Projections of the benefit of the rice assume that farmers will immediately grow it, but families poor enough to be affected by VAD often lack land to grow rice for themselves. VAD in the Philippines has been highest in Mountain Province, where farmers are unlikely to plant lowland rice varieties, and in part of metro Manila where no rice farming occurs.

The old claim, repeated again in a recent book, that faster growing rice varieties have been ready for use in 2002 is silly. As recently as 2017, IRRI made it clear that Golden Rice still had to be "successfully developed into rice varieties acceptable for Asian and shown to improve vitamin A status."

The Philippines has managed to cut its childhood VAD rate in half with conventional nutrition methods. Golden Rice appears on the market in the Philippines by 2022, it may not affect vitamin levels in its target population, and farmers may need to be paid to plant it.

source: theconversation.com, Feb. 7, 2020

How Shrubs Can Help Solve Climate Change

The succulent shrub Portulacaria afra, more commonly known as speckboom, has small, round leaves and is indigenous to the semi-arid region of Klein Karoo in South Africa. Many growers in the region believe that this humble, hardy, semi-desert plant has the potential to alter both the weather, by bringing rain, and the climate, by absorbing carbon dioxide.

"Because of speckboom’s remarkable growth rate, its rate of carbon capture can rival that of tropical forests,” Sarah-Jane Paviour writes in her 2014 thesis on these properties of speckboom, also called the dwarf jade plant or porkbush. It doesn’t need to be cultivated in a nursery before planting, which takes time and money. The result is that one tonne of CO2 can be captured for less than a tenth of the cost of sinking the equivalent carbon by planting trees in temperate or tropical forests. To plant speckboom, all you need to do is to take a cutting from an older plant and place this where you’d like to plant it (sandy soil is best). While it slowly establishes a root system, regular watering is crucial.

The South African government’s Working for Ecosystems programme proposes restoring a million hectares (2.5 million acres) of speckboom thicket – an area roughly equivalent in size to Cyprus.

"If we could regreen the entire area, a change of this scale would be clearly visible from space,” says Tim Christophersen, head of UN Environment’s Freshwater, Land and Climate Branch, and chair of the Global Partnership on Forest and Landscape Restoration. “The impact on the climate would be enormous.”

The maximum recorded rate of carbon sequestration in a speckboom thicket is 15.4 tonnes of CO2 per hectare per year. A fully restored thicket would have the potential to sequester up to almost three times the amount of emissions produced by the US in 2019, at 5,783 million tonnes. Not only would the speckboom suck huge amounts of carbon out of the air, but it “would also provide a cooler micro-climate, one that allows other species of animals and plants to return to the area,” Christophersen adds.

As well as being a fast and cheap option, another appeal of speckboom is that it something of a botanical chameleon. “The uniqueness of a speckboom is closely linked to its changeable physiology,” says Ruia Grant-Biggs, an ecologist at Rhodes University.

Over the past 150 years, this has drastically reduced invincibility. The plant used to be a dominant species in the Klein Karoo in South Africa. Over the past 150 years, this has drastically shrunk because of persistent overgrazing by sheep and goats.

source: BBC.com, Feb. 3, 2020

Settlement of the Glyphosate Lawsuits in the USA is Approaching

The "settlement poker" between the lawyers of the US glyphosate plaintiffs and Monsanto’s parent company Bayer appears to be entering its final round. Another pending trial has been suspended, as a result of the announcement made by US attorney Ken Feinberg, who is leading the settlements negotiations, that a settlement could be reached within a month.

While Feinberg did not give any figures, Bloomberg quoted sources with "direct knowledge of the negotiations". They spoke of a sum of ten billion US dollars, or around nine billion euros. Of this sum, eight billion dollars are to settle the pending lawsuits and two billion dollars are to be reserved for future lawsuits.

Feinberg spoke to Bloomberg of up to 85,000 Roundup lawsuits in the US. Bayer rejected this as speculation and emphasized that the German Handelsblatt newspaper that the number of lawsuits served was "well below 50,000".

In October 2019, the company had reported 42,700 lawsuits. However, not all law firms have yet reached an agreement with Bayer. As the organization US Right To Know reported, the law firm of the US glyphosate plaintiffs and Monsanto's parent company, representing many plaintiffs, had so far been very reluctant to enter into negotiations, while other lawyers already signed an agreement with the German corporation. US Right To Know quoted Feinberg as saying that Miller was seeking “what he thinks is appropriate compensation” and that it was unclear whether a global settlement could be reached without Miller.

In order to not affect further settlement negotiations, the opening of the next trial was cancelled at a short notice last Friday. The Wade vs. Monsanto case would have been the first lawsuit to be heard by the St. Louis District, where Monsanto is headquartered. The jury had already been appointed and Monsanto had unsuccessfully tried to prevent the trial from being broadcasted by local television and radio stations. The Miller law firm is involved in the trial on the plaintiffs’ side. The consent to the postponement is interpreted as a sign that Miller too might be willing to reach a settlement. The head of the law firm, Michael Miller, told the Handelsblatt newspaper: “The Miller law firm will agree to a settlement if Bayer makes a fair offer”. Miller also mentioned a benchmark for this: “Remember that Bayer rejected our offer to settle at six million before the Johnson trial.” Instead, the group was
The settlement negotiations are thus entering what may be the final round, and most of the pending court dates have therefore been postponed in recent months. But not all of them: The District Court of Contra Costa in Northern California has been hearing the Caballero vs. Monsanto case last week. The plaintiff is also represented by the law firm Miller. At the end of February, the Stevick vs. Monsanto case is due to be heard in San Francisco. In the following months, several hearings are to begin in St. Louis.

source: Organic-market.info, Feb 2, 2020

Mite-destroying Gut Bacterium Engineered to Save Vulnerable Honey Bees

The world’s honey bees are facing an unprecedented crisis. Since the 1940s, the number of honey bee hives in the United States has dropped from 6 million to 2.5 million. A combination of colony-killing mites, viral pathogens, and possibly pesticides is largely to blame. Now, researchers are tapping an unusual ally in the fight to bring the bees back: a bacterium that lives solely in their guts. By genetically modifying the bacterium to trick the mite or a virus to destroy some of its own DNA, scientists have improved bee survival in the lab—and killed many of the mites that were parasitizing the insects.

The work, which has yet to be tested in whole hives or outdoors, promises to be effective over the long term, says Robert Paxton, a bee ecologist at Martin Luther University, Halle-Wittenberg, who was not involved with the study. It could help end, he says, “the major plagues of the honey bee.”

These plagues include the aptly named *Varroa destructor* mite, which weakens bees by feeding on their fat stores, as well as the deadly “deformed wing” virus the mite transmits when it makes its home on the bees’ bodies. The mites have quickly developed resistance to pesticides that used to kill them, Paxton says.

To bypass the pesticides, some scientists have turned to a process called RNA interference. RNA is best known for transferring DNA’s protein-coding messages to a cell’s protein-production machinery. But RNA can also be recruited to help “silence” unwelcome genetic material. By engineering RNA to match the sequence of the undesirable gene, scientists can activate the cell’s ability to shut down the matching genes, even those that lead to disease in humans.

Jeffrey Barrick, a microbial evolutionary biologist at the University of Texas, Austin, and his colleagues decided to see whether they could recruit bacteria living in the honey bee gut to produce RNA that make the mite—or the virus—dismantle some of its own genes. Whereas humans have thousands of kinds of gut bacteria (and no two humans have exactly the same set of microbes), all honey bees have the same six to eight gut microbes, which keep the bees healthy. So, if the procedure worked in one set of bees, Barrick reasoned, it could be broadly applied.

Barrick’s graduate student Sean Leonard figured out how to genetically modify one of these bacteria, *Snodgrassella alvi*, so that it continually made RNA that matched the genetic material he wanted to dismantle: genes that are essential to the survival of the mite or the virus. To watch the RNA diffuse from the honey bee gut throughout the body, he added fluorescent tags.

Next, he fed the bacterium to groups of up to 20 bees before exposing them to the mites or the virus. The mites were 70% more likely to die on the treated bees than untreated ones, Leonard, Barrick, and their colleagues report today in *Science*. “The mite-killing impact was impressive,” says virologist Michelle Flemmiken from Montana State University, who was not involved with the work. When the bees were infected with the virus, they were 36% more likely to survive when they housed gut microbes with virus-targeting RNA than with gut microbes not making RNA, the team reports.

The Pfeiffer Center

Spring Workshops and Events

PLANT SALE
May 15-17

BEGIN A VEGETABLE GARDEN
With Mac Mead
April 18

CONSCIOUS BEEKEEPING
With Bill Day
April 24: Half-Day Orientation for beginners
April 25: Practical Organic Approaches for Growing Apiaries

GROW YOUR APIARY NATURALLY WITH SPLITs AND SWARMS
With Bill Day
May 9

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This brown mite (center) often infects honey bees, transmitting deadly viruses to them.
Invasive plant species are a major cause for loss of biodiversity," said Theresa Sprague, who had signed the letter with Hilley. Organic alternatives for weed control often include the use of "lots of lots of salt," she said. "Banning glyphosate is a slippery slope," Sprague said. "You could end up with much worse."

Selectman Christopher Lambton, who has degrees in agriculture and owns a landscaping business, responded to a speaker's query on why glyphosate was being targeted. "We want to target glyphosate because it's the No. 1 player in the game," Lambton said. "I'm a landscaper, and I don't use it. I don't want it on my hands. I don't want it near me."

William Clark, a member of the Conservation Commission and Community Preservation Committee, prefaces his comments by saying he was speaking only for himself. Clark, a former member of the state Pesticide Board, said glyphosate is generally applied with backpack sprayers and has low potential to get into water. "I would urge you to leave things the way they are," he said. Resident Linda McCluskey disagreed. "To me, any poison you apply, whether in the soil or the water, it's in the food chain," she said. "It doesn't seem to make sense to add poison to our soil or our water."

Selectman Robert Mezzadri stressed the ban would apply only to town-owned properties. Although the Environmental Protection Agency has not come out against the use of glyphosate, Mezzadri said, the studies he had seen by the federal agency were "outrageous." A study by the University of Iowa found golf club superintendents have a higher rate of certain cancers, he said. Glyphosate is banned in several countries already. "There is no reason to continue with the status quo when 39 countries have banned it," Mezzadri said.

A group called Protect Our Cape Cod Aquifer initiated the effort to stop the use of glyphosate. If communities lead the way by instituting bans via policies or regulations, the public may do the same, according to the group, known as POCCA. POCCA president Laura Kelley, who was present for the vote, said she had promoted the cause in Dennis through about a dozen visits, during which she educated town leaders as well as the public. "It took about 14 months of work to get to last night," Kelley said Wednesday.

In addition to Dennis, Eastham, Falmouth, Mashpee, Orleans, Sandwich and Wellfleet have some form of ban in place, according to Kelley. Falmouth’s restriction is in the form of a yearlong moratorium instituted by the Board of Health, which extends until April. Barnstable, Chatham and Harwich are also considering some form of action. source: Cape Cod Times, Jan. 8, 2020

Cannabis-based Medicines: Two Drugs Approved for England’s National Health Service

Two cannabis-based medicines, used to treat epilepsy and multiple sclerosis, have been approved for use by the NHS in England. The service followed new guidelines from the drugs advisory body NICE, which looked at products for several conditions. Charities have welcomed the move, although some campaigners who have been fighting for access to the drugs have said it does not go far enough. Both medicines were developed in the UK, where they are also grown.

Doctors will be able to prescribe Epidiolex, for children with two types of epilepsy, and Lennox Gastaut syndrome and Dravet syndrome - which can cause multiple seizures a day. Clinical trials have shown the oral solution, which contains cannabidiol (CBD), could reduce the number of seizures by up to 40% in some children. It is estimated there are 3,000 people with Dravet and 5,000 with Lennox Gastaut syndrome in England.

source: BBC News, Nov. 11, 2019

The Calculated Strategy to Take Down Journalist Carey Gillam Seen as a Step to Dismantle Organic

For anyone who cares about the integrity of organic and the future of our industry, what has transpired recently reflects the need for incredible concern. Recently released court documents revealed that Gillam, a journalist and author of Whittawash: The Story of a Weed Killer, Cancer, and the Corruption of Science, was the target of a carefully-crafted campaign by Monsanto to discredit her. Monsanto’s actions included the following:

• Keeping a “Carey Gillam Book” spreadsheet, with more than 20 actions dedicated to opposing her book before its publication, including working to Engage Pro-Science THIRD Parties in criticism.
• Paying Google to promote search results for “Monsanto Glyphosate Carey Gillam” that criticized her work.
• Labeling Gillam and other critics as “anti- glyphosate activists and pro-organic capitalist organizations”.
• Monitored U.S. Right to Know, a domestic policy adviser at the state of California “to cause cancer.”

“Monsanto spoke many times in its documents about the fact that people won’t trust messages that come from the company directly. So, they work to fool the consumer by pushing their propaganda out through individuals and groups that look like they are independent of the company. Deception is their default,” said Carey Gillam.

But this strategy extends far beyond placing seeds of doubt in the minds of consumers. Based on internal Monsanto documents uncovered by U.S. Right to Know, a domestic policy adviser at the White House said, “We have Monsanto’s back on pesticides regulation.”

On August 8th, this promise was kept. The Trump administration’s EPA told companies not to warn customers about products that contain glyphosate, which would counter a California regulation that requires labels to warn consumers that the Roundup ingredient is potentially cancer-causing.

source: Organic Insider, Aug 21, 2019

The Natural Farmer - Spring, 2020

The modified gut bacterium persists in the honey bee’s gut for at least the length of the experiment—15 days—providing a steady supply of antimite and antiviral RNA. But because adult bees feed their developing bees, they may be able to transfer these helpful gut microbes to the next generation, Barrick says.

In theory, other RNAAs could be added to the microbe to improve bee health and perhaps even make the bees less susceptible to pesticides. “It is a bit like a customized medicine for honey bees,” says Jeff Barrick, an insect toxicologist at Cornell University in Ithaca who was not involved with the work. “Being able to engineer a gut microbe and specifically regulate gene expression in the host has enormous implications.”

He and others caution, however, that bacteria are typically not likely to contain human health concerns about using this approach in the wild. Furthermore, much more work needs to be done to establish the effectiveness of the new approach in hives with tens of thousands of bees. But, Paxton says, “If the technique works in the field, that could be the end of Varroa and the viruses.” At least until these pathogens change alters growing conditions, plant biodiversity is more important than ever.

In the meantime, any poison you apply, whether in the soil or the water, it’s in the food chain,” she said. “It doesn’t seem to make sense to add poison to our soil or our water.”

Eric Oman, chairman of that advisory committee, told the selectmen before Tuesday’s vote that they were “jumping into something we don’t know a lot about.” Glyphosate remains legal, Oman said, and he supplied several studies on the compound’s safety. Environmental groups, a member of the Golf Course Superintendents Association of Cape Cod, said if the selectmen were going to look at carcinogens, that consideration could include “your hamburger on the grill,” beer and wine, and cigarettes. “I am all for erring on the side of caution, but I think you have to put things in perspective,” he said. Erinn Hilley, a conservation biologist at Wilkins- son Ecological Design in Orleans, called the ban “short-sighted.”

Hilley had submitted a letter that she and other colleagues had signed.
American Hemp Farmer: Adventures and Misadventures in the Cannabis Trade
by Doug Fine
published by Chelsea Green
320 pages, paperback, $19.95
review by Jack Kittredge

Doug Fine is a journalist turned hemp farmer, so who better to write a book about it, you would think?

That is what I thought when I picked this up, hoping to get a fairly straight story about farming hemp and the details of that trade. Unfortunately, while there were good tidbits and facts which I could pull out of the narrative, the writer’s style was so chatty that most of what he had to say was irrelevant to anyone looking for hard information. It is full of breezy references to hemp grower collectives around the country and Doug’s musings, cutting back occasionally to his own New Mexico goat farm and the time a bear killed most of his goats.

I’m sure there are folks who will like Fine’s style, but it seems to me he prefers philosophizing about life to focusing on what he knows about raising hemp and how to convey it. So let me impart what I could squeeze out about that topic.

Fine sees hemp as a fast growing agricultural industry whose future no one can properly imagine yet. He is skeptical that any particular cannabinoid, CBD included, will define the market, preferring instead to look to blended cannabinoids and terpenes, or what he calls the entourage effect, and their interplay to more closely show the plant’s potential efficacy.

He is also skeptical that, despite the growth of the industry, jackpot size earnings will accrue to farmers of the plant. He refers often to the gold rush, where the real money was made not by the hardworking miners and how to convey it. So let me impart what I could squeeze out about that topic.

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He is also skeptical that, despite the growth of the industry, jackpot size earnings will accrue to farmers of the plant. He refers often to the gold rush, where the real money was made not by the hardworking miners but by the middlemen selling shovels. The following paragraph early in the book states his views on getting rich quickly:

But even if you’ve come to this book looking for the Powerball numbers required for a CBD jackpot, I hope you’ll approach these pages with an open mind, ultimately absorbing the following message very carefully: Yes, the CBD market is predicted to grow to $1.65 billion by 2022 from $291 million in 2017. But, as with previous gold rushes, independent farmers (the prospectors) won’t be earning most of it, unless we market our own products regionally, rather than wholesale. Our harvests to glean whatever far-off commodities markets dictate.

According to the 2018 Farm Bill, each state must submit a hemp program plan to the USDA for its approval. Fine writes about working with Vermont policy makers in helping to shape those plans, suggesting allowing seeds from any source, saved or purchased, from in state or not, so long as the federal THC limit is respected. I had hoped, as a former journalist, he would have researched the regs of all the states and published a table listing their key provisions, license approval protocols and fees, and the amount of production approved there for 2019. No such luck, however.

One of the major problems he details is the difficulty facing farmers when their crop tests too “hot” (over 0.3% THC). This can happen to virtually any farmer, Doug writes, as in fact cannabis is not two varieties but one and THC is a natural, healthy component of it. The level of THC varies a lot, as between in the seed and then in the plant,
or once it is a plant in the flower and the leaf, or even in the same plant part between morning and evening. Given this variability, the state requirement for testing plant samples for THC and insensitivity on destruction of any crop coming in above 0.3% is cruel and unusual punishment for farmers. They either must grow inherently weak cannabis or submit to an all or nothing lottery concerning their crop’s survival. There are plenty of ways of diluting excess THC before the product goes to market, he says, like fiddling with nutrients such as nitrogen or harvesting early. Testing is particularly useless when the product is seed or fiber, he believes, which would not be consumed for mind-altering effects. Also, dioecious varieties, where the male and female organs grow on distinct plants, should not be tested. Only sinsemilla crops, where just the female flowers are allowed to blossom and there is thus no male pollen to produce seed, need testing. One final testing concern is that often non-psychoactive THC in its acid state (THCA) is combined in the results with active delta-9-THC when the crop is field-tested. But THC is not psychoactive in the acid form and this should not figure in the result.

Clearly Fine sees hemp seed as a soon-to-blossom industry in itself. Raw CBD seed prices recently hit $3,000 to $6,000 per pound, a tidy sum for a farmer requiring the 3 pounds per acre a CBD crop would require. There are even feminized seeds which cost as much as $7,000 per pound. Obviously seeds costing these amounts and containing high-performance genetics that have been developed over years will not be sold without some sort of control over replanting.

Hemp is planted at different spacings, depending on what your final crop will be. If you are interested in fiber, plant close together and encourage the plant to climb. For cannabinoids, a more distant spacing allows the branches and flowers to get more sun and create a bushier plant with more flowers and THC. A half-inch depth in moist soil is generally good. It can be done by hand, but a seed drill makes it much faster. Unless, of course, the seed drill malfunctions. Which, according to Doug, can be expected repeatedly. In fact he asserts that seed-drill delays make agriculture about as efficient as it was along the Euphrates some 10,000 years ago.

The moment you harvest hemp seed, the clock is running. You need to get it down to 8% moisture content as much as you can before you can commercialize it, whether as flower, seed, or fiber, plant close together and encourage the plant to climb. For cannabinoids, a more distant spacing allows the branches and flowers to get more sun and create a bushier plant with more flowers and THC. A half-inch depth in moist soil is generally good. It can be done by hand, but a seed drill makes it much faster. Unless, of course, the seed drill malfunctions. Which, according to Doug, can be expected repeatedly. In fact he asserts that seed-drill delays make agriculture about as efficient as it was along the Euphrates some 10,000 years ago.

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Says one developer he quotes: “It costs me filthy K to develop a new line of genetics. Someone who wants to buy a clone for four bucks and make an infinite supply is basically free-riding off our work and investment.” But he feels farmers replanting seeds from their crops is an inherent right and needs to be respected. In a few years, he feels, seeds with little proprietary genetics will be available for replanting and others that are highly developed will have one or another kind of royalty attached to reward the geneticist or farmer who developed them.

How do farmers recoup these big expenses? Doug pencils out a case where you pay $12,000 per acre for seed and $6,000 per acre for other expenses (State of New Mexico estimate.) The crop flourishes and your yield is 1000 pounds per acre on each of your 20 acres.

In the wholesale market your raw biomass is worth perhaps $20 per pound; so you gross $20,000 per acre, clearing $40,000 on all 20 after your expenses of $18,000 per acre. This is four times what you might make on corn or soy or wheat. Which is not bad money, especially given that the $20 price could easily go up to over a hundred.

But if you turn that crop into 10,000 units of a value-added product and market the whole run, which Fine plans on doing, your net could be far larger. Or you could even process the CBD into crude oil. You would have to secure a toll processor, but a pound of flower that tests out at 10% CBD would get you 90 grams of crude at 80% CBD. Priced at $8 per gram, that is $720 per pound of flower. So those 1000 pounds from each acre can gross $720,000.

Of course securing a toll processor had better be done before you have a crop waiting. Otherwise you may be held up to exorbitant rates or terms which only the crush of not wanting your crop to rot would make you accept.

Cold ethanol is one of the ways to extract crude from raw hemp flowers. Processors can be simple tabletop units or much larger and fancier ones. You grind up your flowers, put them in a net bag, and into the glass dome of the processor. The dome contains a condenser which rains very cold ethanol (–20° F) over the flower. The ethanol acts as a solvent, removing the cannabinoids and terpenes once filtered, these are concentrated to about 50 times their level in the flower but in the same ratios. The ethanol filters out and can be reused.

Fine quickly discusses other extraction methods: Water or Ice Extraction, Copper Steam Distillation, Pressure (Rapid Extraction), CO2 Extraction, and Immersion in Lipid Extraction. This last is done by getting a lipid (Doug used oil pressed from hemp seed), immersing hemp flowers in it, and slowly raising the temperature to 220° F and holding it there.

One of the themes Fine touches upon a lot is the value of hemp in sequestering carbon. He claims that the Environmental Protection Association (sic) says that hemp sequesters 12 metric tons of carbon per acre. First of all, he thinks he means Environmental Protection Agency, a part of the US government. Although he footnotes this statement, when I looked it up no study or source was cited and Fine says he got the figure himself by averaging some test plots (unidentified) and adding in some carbon sequestered in another unidentified field, this one no-till. I’m not sure what to believe that cannabis is good for carbon sequestration, but I’ll need a better source than he gives. From my study of sequestration (Soil Carbon Restoration: Can Biology Do the Job, NOFA/Mass, 2015) I find a figure of 14 tons per acre for an annual crop highly unlikely.

Doug is a strong proponent of hemp foods, particularly hempseed. He says it has ideal omega 9-6-3 ratios and magnesium levels difficult to find in vegan foods. He also says he talked with a professor at the University of Hawaii who believes that when hemp is part of a diet there are fewer lipids in the cells. Somewhere lipids are inhibited, causing the cells to...
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The Natural Farmer

Chapter 2 – Balancing Crop Growth

Chapter 3 – Preparation of the Land for Planting

Chapter 4 – Seeding and Transplanting

Chapter 5 – Tillage

Chapter 6 – Fertilization

Chapter 7 – Pest Management

Chapter 8 – Water Management

Chapter 9 – Crop Rotation

Chapter 10 – Seed Sourcing

Chapter 11 – Animal Integration

Chapter 12 – Conclusion

Pesticide-Free Methods

No Till Intensive Vegetable Culture

Balancing Crop Growth – Chapter 2 – starts with the environment is rapidly changing and the ability to care for our surroundings becomes a major part of our future, and how what farmers could profit from raising it. If you like gonzo journalism and want to hear stories about hemp, then you are in the same “tribe” as it were. What I most like about Bryan is that he has a strong sense of self, is never afraid of taking a stand against the norm, is thoughtful and kind, and is eminently generous with his time for others, takes real charge in his life, is family centered, and has an ever curious nature and is ever willing to solve his problems. I like his book dedication – “To increasing the abundance of life.”

This book is humble, as is Bryan, and in this book he offers his perspective while not overshadowing the perspectives of others. Taking us carefully through his process of evolution as a farmer in each chapter, one gets a sense of where he has been and how it has built on his present practices. From the introduction: “…These methods are successful because they are interconnected, actions rely on and assist other actions. Growers may do well by carefully following these methods. However, the primary objective of the manual is to help growers formulate a set of actions that may be best in their own environments, and in that regard some methods described herein may be more appropriate for adoption than others. As such this manual is meant to develop growers’ abilities for their own situation, but it is certainly not the last word on vegetable growing technique.”

Chapter 1 discusses the four elemental states of primary importance for vegetable growing – soil, water, air and sunlight. Here he describes digging a hole to get the best look see on what really is going on in the soil, and then discusses the two areas of biological recycling – around decaying organic material and around the living roots of plants, and then he goes through the process of soil aggregation, and has a huge impact on these processes. “Well aggregated soils are rarely found in commercial vegetable fields” says Bryan, but then encourages us to make that the priority with good examples of how that can be done. “ anytime growers disturb the soil’s air and water balance through tillage, excessive irrigation, or inappropriate fertilization, they may create such a disruptive upset of the balance that nutrient balances manifest in crops.”

Regarding sunlight, Bryan states, “This management of the crop canopy is an essential aspect for maximum health of a crop and the soil environment.” Bryan is very concerned about how pollution has severely impacted all four natural elements. Sunlight is blocked by particulate matter in the air, and when rains contaminate and Bryan is very concerned by weather control and excessive climate engineering that goes on at this time in his view, “the growing environment is rapidly changing and the ability to change with it is primary.”

Balancing Crop Growth – Chapter 2 – starts with some good things to observe – Do seedlings spring out of the ground quickly, are the initial leaves relatively large and remain green, is the growth rate steady and uninterrupted, is maturity on time, are the plants sturdy and not brittle, do plants not lodge (fall over) in times of climatic stress, are stems thick with balanced intermodal distances, are the leaves large and plentiful, are freshly dug roots a vibrant white, especially at their tips? Later he discusses plant polarities – the varying forces of yin and yang or female and male qualities. A reminder here that an example of excessive growth force will bring on aphids, which is often linked to excessive fertilization. This chapter excels in its tips about how our human intervention should be in the name of managing for balance, with good examples of the outcomes of various management strategies. He relates interesting information about how tillage encourages more bacterial dominance, higher pH and annual weeds, while non-tillage supports more fungal dominance, a slightly lowered pH and perennial weeds. According to Bryan, “Likely the most important nutrient ratio to pay attention to in crop production is carbon to nitrogen ratio.” I enjoyed this tip that pigmentation in certain crops is only developed characteristically when growing conditions are balanced, for example Red Salad Bowl and Red Seald Lettuces.

Chapter 3 covers the preparation of the land for no-till. Here he talks about the pros and cons of tillage, clearing woody growth, tillage tools and techniques, primary and secondary tools, subsoiling tools, transitioning to reduced tillage, bed layout considerations, and conversion directly from soil to till. I remember a presentation that Bryan made years ago regarding subsoiling tools where he articulated the value of breaking up plow pans. Silly me didn’t take that to heart enough to practice it until this past year. I marveled all season in 2019 about that practice. I had an “aha!” moment in the stone dust section regarding my pesky slug problem in our no till system. Stone dust could probably add some fertility at the same time that it would probably deter slugs. Here are some tips worth passing on. “Diverse crop rotations along with interseeding and interplanting crops help to maintain flexibility in the soil life which will further support the successive vegetable plantings.” Each farm has growing conditions that favor certain crops and growers will do well to favor those crops.” I for one can’t grow eggplant to save my life! And here is a controversial statement that many growers hotly debate. “Crops are historically rotated by plant families in order to avoid weed, insect and disease pressures. However, when these conditions are dealt with through soil fertility and balance, there is much less need to set up rotations on this basis.” Bryan thinks that if a crop grew well the soil biology that resides there will help to bring another excellent crop.
Herbal Antivirals: Natural Remedies for Emerging & Resistant Viral Infections
by Stephen Harrod Buhner
Published by Storey Publishing, 2013, 416 pages, softback, $24.95

review by Gregory Luckman

Buhner has written several books on ecological medicine and on the art of writing nonfiction, and one book categorized as poetry. From his earliest youth, he was no stranger to the medical establishment. His grandfather David Cox was president of the Kentucky Medical Association. His great-uncle Lee Burnsey was surgeon general of the United States during the latter part of the Eisenhower administration. Yet Buhner has taken a different route, regarding mainstream medicine’s hubris over its paradigm for dealing with infectious diseases as ultimately a fool’s errand. This does not mean that Buhner is anti-vaccination: he regards the smallpox and polio vaccines as successes. He just believes that only herbal remedies can avoid the microbial resistance problems that plague modern medicine’s tools.

I first encountered Herbal Antivirals and a parallel book, Herbal Antibiotics (Stoery Publishing, 2012), at the NOFA summer conference in 2018. I sort of read through them; they are extremely dense, fact-filled reading. I mentioned them to Jack Knecht in 2018 and he suggested that I write a review for The Natural Farmer, but I elected instead to review Anthony Jay’s Estoegeneration. Partly my hesitation was that I felt myself to be too much of a beginner in herbal medicine.

Today, my self-assessment of my knowledge of herbal medicine has not changed. If I were to go to an herbal conference, I would sign up for as many herbal walks as possible so that I could learn to identify some of the herbs I read about: I don’t even know what a lot of the most important medicinal herbs look like.

So, what has changed that I am willing to write this review now? In short, on Thursday, January 30, 2020, the World Health Organization in Geneva, Switzerland declared the new outbreak of coronavirus originating in Wuhan, China to be an international public health emergency. Just in the past two weeks the death toll from the outbreak has doubled and doubled again and doubled again and doubled again. Perhaps the outbreak will recede as quickly as it started, but no one knows as I write this. As it happens, Buhner discusses the smallpox and polio vaccines as successes. He just believes that only herbal remedies can avoid the microbial resistance problems that plague modern medicine’s tools.

To start, note first that the presence of a section on coronavirus illustrates how Herbal Antivirals (and Herbal Antibiotics) differ from many other books on herbal healing, for example, Guido Masé’s The Wild Medicine Solution or Rosemary Gladstar’s several books on herbs for health. Herbal Antivirals and Herbal Antibiotics are much less focused on the big picture of herbal support for all aspects of general health issues, including the modern ‘plague’ of non-infectious diseases. Instead, they are much more oriented towards crisis management of past and once again deadly infectious diseases.

Note also that these two books by Buhner are so filled with details and so comprehensive that they might be considered as desk references for holistic medical practitioners rather than as guides for the average person whose interactions with the health care system are in the capacity of being a patient.

Chapter 1, ‘Emerging Viruses: What We Are Facing,’ serves as an introduction to Herbal Antivirals. It is a seventeen-page essay covering just what the title suggests. Buhner provides a few examples of outbreaks of viral illnesses around the world in the twenty-first century, then recounts some of the great successes of modern medicine. The second half of the chapter is devoted to the triumph over smallpox as “the apex of success of the medical assault on microbial disease pathogens.” He then examines in an almost philosophical way the inadequacies of the paradigm that modern medicine thought that it could use to follow its success with smallpox by similar successes with all other infectious diseases.

The next three chapters could be considered as Part One of the book. Viral illnesses are discussed individually, grouped into three categories: Chapter 2 is titled ‘Viral Respiratory Infections and Their Treatment’; Chapter 3 is titled ‘Viral Encephalitis Infections and Their Treatment’; Chapter 4 is titled ‘A Brief Look at Some Other Viruses,’ the inevitable ‘miscellaneous’ chapter that covers emergent infections that don’t fit in any other category.

In Chapter 2 on viral respiratory infections, by far the most thoroughly discussed infection is influenza. Following a four-page introduction discussing the history of influenza, especially the 1918 world influenza pandemic, the chapter proceeds to a three-page discussion of the various forms of the influenza virus. The discussion describes the rearrangements and mutations that make the infection sufficiently different from those of previous virus strains to evade recognition by the immune system’s memory of previous encounters. As a result, infection can repeatedly recur year after year and occasionally turn into a new and deadly form.

The chapter then turns to infection dynamics and the ‘cytokine cascade.’ Cytokines are small proteins secreted by cells of the immune system to communicate with and regulate other cells. The discussion, extending over seven pages, describes step by step how the virus enters the body, gains entry to cells in the lungs, subverts their function, and then repeats the process. It is here that Buhner begins mentioning various herbs that are effective in inhibiting the individual steps of the virus’s attack. At times the discussion becomes very technical. As one extreme example, in describing the secondary infection of immune system cells, the following sentence occurs:

‘In response to toe infection, those cells also begin releasing cytokines and chemokines: IFNs, IL-1α and IL-1β, IL-6, TNF-α, CXCL8, CCL2...”
Chapter 3, ‘Viral Encephalitis Infections and Their Treatment,’ covers for such infections the same kind of information as chapter 2 covers for respiratory infections. However, the organization is slightly different. Six pages of general introduction include a categorization of virus types, symptoms, and mainstream medical treatments. Then, in a section on mechanisms of viral infection, the discussion breaks out Japanese encephalitis virus, West Nile encephalitis, tick-borne encephalitis, and La Crosse encephalitis. For each virus type, Buhner mentions herbs that are effective for inhibiting specific steps of the infection progression. As with the discussion of SARS and coronaviruses, there are numerous acronyms, many familiar from the discussion of influenza.

There follows a section on natural treatments for encephalitis, three pages of protocol common to all forms, then an additional page of specifics for the different viruses. Finally, the discussion turns to herbs specific for protecting and regenerating neurons: Chinese senega root, Japanese knotweed, kudzu root, lion’s mane, and pink-striped trumpet lily.

Chapter 4, ‘A Brief Look at Some Other Viruses,’ covers cytomegalovirus, dengue fever, enteroviruses 71 and D68 (whatever that means), Epstein-Barr, herpes simplex 1 and 2, varicella zoster virus (chicken pox/shingles), and the gastrointestinal viruses rotavirus and norovirus. (Hopefully, no one will have to deal with all of these at once. The range of viruses considered is perhaps one that creates the perception that Herbal Antivirals is intended as a desk reference for holistic medical practitioners than as a book for home use.) Mention of useful herbs is postponed until the section on treatment protocols, seventeen pages that conclude the chapter.

Chapters 5 and 6 could be considered as part 2 of Herbal Antivirals, although they are not broken out as such. Chapters 2 through 4 were organized around specific classes of infections. Chapter 5 and 6 are organized around specific herbs. Chapter 5 is called the “Materia Medica.” Buhner offers his list of “the top seven antiviral herbs.” They are Chinese skullcap, Elder, Ginger, Houttuynia, Isatis, Licorice, and Lamotrigine. Speaking of Isatis, a member of the Brassicaceae family, he states, “The Chinese used the leaf decoction to good effect in treating the SARS outbreak there several years ago.” But he also notes that isatis is very invasive and damaging to other vegetation, stating as an example, “It reduces cattle grazing capacity by about 40 percent on infested range.” According to Buhner, Houttuynia is also very invasive.

Buhner also mentions several ‘honorable mentions,’ of which he discusses only Bonestel and Red root in detail. He does indicate that there are many other antiviral herbs and invites the reader to please try those others as well.

The discussion of each of the nine named herbs is extensive, including sections on which parts of the plant are used, preparation and dosage, side effects, herb- and herb-drug interactions, habitat and appearance, cultivation and collection, medicinal properties, commercial sources, plant chemistry, traditional uses, and finally, in smaller type font, a description of studies that Buhner found in the worldwide scientific literature. All told, the discussions of the named herbs run to thirty-eight pages. Again, the reader might feel overwhelmed by the detail for each herb, but again, there is a clear impression that Buhner has provided nearly encyclopedic information.

Chapter 6, ‘Strengthening the Immune System,’ comes closest to resembling other books on herbal healing. The format is similar to that of chapter 5. Here are only three herbs mentioned, however: Astragalus, Cordyceps, and Rhodiola. This contrasts with the corresponding discussion in Herbal Antibiotics, in which Buhner includes eight herbs (including Bonsetel and Red root, which are covered in chapter 5 of Herbal Antivirals).

The book includes an appendix on herbal medicine making for the do-it-yourselfers and another appendix on sources of supply for those who would prefer to buy rather than make their own. (There are now additional suppliers, some of whom have recently been appearing as vendors at NOFA summer and winter conferences over the past year and a half. Some of the latter have specifically described their products as being those of the “Buhner protocol.”) In general, the “Buhner protocol” refers not only to the protocols in Herbal Antivirals and Herbal Antibiotics, but also to Buhner’s protocols for Lyme disease described in yet another book, Healing Lyme, that I haven’t even read yet.

I have three concerns about the book. First, one cannot decide on a detailed herbal protocol until one knows what infection one has. But only mainstream scientific medicine is very good at diagnosis, even if it is locked into a treatment paradigm that leads inevitably to viral or bacterial resistance. So, in a sense, one is still dependent on the mainstream medical system before one can optimize herbal remedies for an infection. But what happens if one is quarantined in an isolation ward for fourteen days while the herbal remedies are sitting at home? Second, I have mixed feeling about Buhner’s advocacy of planting invasive species, even if they have strong antiviral properties. His advocacy is usually presented with humor, as in saying something akin to: “Plant it. You won’t regret it. Just don’t tell the neighbors.” But what if the neighbor is an organic farmer struggling to keep invasive species out of vegetable beds without chemical herbicides? Buhner is clearly writing for readers as patients, not as farmers. More dialogue on the proper stewardship of land dedicated to invasive species.

Third, in my opinion, the primary shortcoming of Herbal Antivirals for many readers is its very comprehensiveness. It behaves people to plan ahead and have selected herbal tinctures and powders in a home medicine cabinet before illness strikes. No one wants to have to order from a supplier or make one’s
DO THE NEIGHBORS THINK YOU’RE WEIRD?

You’ll fit right in with our community of farmers, growers and ranchers.
When they do not have enough to eat, they may sell their labor. This may cause them to move from farmwork to farm owners. As a result of this labor migration, the Latino/a farms become more attractive to the Mexican community. The Latino/a farmers who are able to become farm owners have to sell their farm on favorable terms to trusted Latino field managers. This process of labor migration allows the Latino/a farmers to become owners of significant properties. However, this process is not without challenges, as the Latino/a farmers face many obstacles in becoming independent farmers.

Today, an assistant professor of Food Studies at Syracuse University, Minkoff-Zern started the research for this book as a graduate student in 2011 and traveled to five different regions of the US, including New York, where the agency staffed farmers, farmers’ market managers, and other researchers helped her to locate the farmers, many of whom speak little English and lack legal status. As a result of her travels, she is certain that the US Agricultural Census understimates the number of Latino/a farmers since many of them rent land, avoid government offices, and have not been included in programs for farmers. She reports on a few programs that offer training for Mexican and other Latino farmers in becoming farm owners or managers. The Small Farms Program at Washington State University, Crossroads Community Food Network in Maryland, Viva Farms in the DC area, the Latino Economic Development Center in Minnesota and the Agriculture and Land-Based Training Association (ALBA) in California. Over the twenty plus years, ALBA has helped launch dozens of Latino/a-owned farms through its courses and incubator. Minkoff-Zern has presented on several occasions on how to make your farm fair to the people who work on it. Although few of the Latino/a farmers expected to hire non-family members, they appreciated the resources I shared on an integrated approach to farm safety and good working conditions.

With just a few interesting exceptions, the Latino/a farmers Minkoff-Zern has interviewed share many of the same obstacles. They told her that they rely a lot on family labor, but still sell through the conventional packing houses and would like to gain more acreage. The other significant monocrop is strawberries: 65% of California’s strawberry farmers are of Mexican descent and 25% started as field workers and worked their way up. (p. 131)

Over and over, Minkoff-Zern hears from the Latino/a farmers that farming is not just a commercial, money-making venture, but a way of life. They choose to farm, rather than enter some other kind of business, because farming is what they know, what they love to do and the heritage they want to pass down to their children. The conventional industrial model pursued by so many US farmers is not attractive to them. In any case, they cannot afford large acreage or equipment, nor would they have easy access to wholesale markets or production contracts. As for many Anglo organic farmers, the standard technical advice on fertilizers and chemicals is of no use to them. Taking it farther, the standardization imposed by commercial markets is abhorrent to them, including the potential pressures to grow things a certain way that makes some of them shy away from government programs and even organic standards and the certification process.

As Minkoff-Zern points out, our movement for a more sustainable agriculture has everything to gain by including these new American farmers. Welcoming a few Latino/a farmers to farmers markets we might sell at should be an added attraction. Having bi-lingual staff with Mexican community roots would help make them feel more welcome. Of course, we can start by translating our materials and websites into Spanish and providing Spanish interpreters at our conferences. Farmers who sell direct are much less likely to seek certification than those who sell to markets that require the label, but they might still be interested in the standards. In thinking about writing this review I discovered that the National Organic Program has some documents in Spanish though you have to hunt for them, and when you click on the standards themselves, what comes up is an English version. According to Minkoff-Zern, like many of us white family-scale farmers, the Latino/a farmers feel under pressure to conform to conventional farming, to use more industrial practices, to scale up. These are our brothers and sisters and our movement for family-scale farms is international in scope. There is much we can learn from people who have overcome so many odds in order to farm in this country.
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