2019 NOFA Summer Conference: Upgraded Schedule and Discounted Price
Super Early Bird Special available through March 18th

by Jason Valcourt

The 45th Annual NOFA Summer Conference will celebrate the theme: Nutrition Matters - Soil Health Builds Human Health with well loved and renowned keynote speaker, Sandor Katz and over 800 farm friendly folks from (see the alliteration there) near and far.

In 2019 we have made major changes to the overall weekend agenda. The main change is that we are condensing the conference schedule into two days, from its typical three day format. It is hard to get away on Thursday or Friday in the summer, so, with the hope that the conference can include more people in the entire weekend event we are consolidating with the intention to make a more potent experience for all.

We will kick off the conference weekend on Friday evening with dinner and live music. Let’s get together to dine, dance and converse and prime the pump for a weekend of amazing workshops. Our Intensive workshops (Full or Half Day) will now be mixed into the Saturday and Sunday schedule. We hope this allows more access to those of you who can’t get away on a Friday and want to spend highly focused time with one topic and presenter. On Sunday we are adding a fourth general workshop slot to extend the day with more learning opportunities before you head home.

Saturday, as always, will be a power-packed day. Our keynote address is from author of Wild Fermentation and The Art of Fermentation, Sandor Katz. In the nearly 30 years that Sandor Katz has been writing, teaching and traveling the world learning about fermentation, his name has become nearly synonymous with sauerkraut to the many who learned this art from his books and workshops (in fact, he sometimes goes by Sandorkraut). Katz is credited with popularizing and reviving interest in fermented and microbial foods, decades before the explosion in awareness of the gut microbiome and its relationship with human health.

His 2003 book, *Wild Fermentation* (now in its 2nd Edition), is a deeply practical guidebook to fermenting that weaves together instructions on making fermented foods like sourdough, honey wine, kombucha, miso, yogurt (and of course—kraut) with reflections on traditional food cultures, microbiology, the industrial food system and nutrition. In 2006 his second book was published—an exploration of food activism called *The Revolution Will Not Be Microwaved*. And, in 2012 he wrote *The Art of Fermentation*—a more in-depth and expansive take on fermentation that became a New York Times Bestseller.

What is so compelling about Sandor Katz to so many in the local organic regenerative and sovereign food movement(s) is his ability to convey the interconnectedness of the practice of cultivating living foods with the reclamation of food systems by individuals and communities. By fermenting and preserving foods in low-tech ways that enhance both their nutritional value and longevity, real people are empowered to assert more control over their own health and wellbeing. It is an idea that runs so deeply counter to the industrial food movement and its messaging that food must be frozen, canned, pasteurized, refrigerated, inspected, sealed, and utterly lifeless in order to be safe -- that we are utterly lifeless in order to be safe -- that we are utter ly lifeless in order to be safe -- that we are vulnerable and need the industrial food system.

Our Summer Conference Workshop Coordinator, Hannah Blackmer has assembled over 130 talented and experienced presenters to educate and inspire on the many facets of nutrition, farming, gardening, food policy and more. Of particular interest this year is an intensive workshop on making CBD salve, a gut biome intensive with Guido Mase, and a disease/insect scouting workshop on the Hampshire Farm.

Our Youth Conference Coordinator, Valerie Walton has partnered once again with the Farm and Garden Camp at Hampshire College to bring the kids for another on-farm experience. Last year they harvested ingredients and then made their own pizzas, cooked in the wood fired oven!

We are preparing for an exciting weekend of delicious food, fun and learning and hope you are planning on joining us this year. You can take advantage of the two day $99 Super Early Bird Special through March 18th (just after NOFA-NH’s Winter Conference). Register online at nofasummerconference.org

Registration will then close until it officially opens again on May 1st for our plain old Early Bird rates. Don’t be plain. Be Super! Register now!

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Section B: Supplement on Food Sovereignty
A Dog Story
and a Question
by Jack Kittredge

Julie and I live in a part of Central Massachusetts that is largely rocks, trees, and swamp. Not to say that there are not good pieces of farmland here to be found (or more likely to be slowly built). It is just not the dominant terrain.

Whereas our Commonwealth has a population den-
sity of over 820 people per square mile, our town of Barre registers only 155 on that scale, and the immediate neighborhood on our back road musters less than 45. We live surrounded by a mixed forest and wetlands, on a few cleared acres in what most people would call the back woods.

Thus our interest in dogs.

I don’t know how many times we have talked to hopeful chicken raisers seeking advice about keep-
ing poultry. Often this has been before start-up, but unfortunately sometimes it occurs after a tragic midnight slaughter of several plump hens by some sharp-toothed woodland creature.

“Our experience,” we say, “is that no matter how well you build bird housing, some hungry critter has the strength, size, shape, or other gifts ultimately to overcome your design.”

“Well, then” they respond, dejectedly, “there is no hope.” After a moment’s pause, however, they inquire “But how do you manage?”

Glancing admiringly out at Franny (or before her Junio, or before him Stewell), or before him Broo, we say:

The Natural Farmer
Needs You!

The Natural Farmer is a quarterly membership journal of the Northeast Organic Farming Assoc. 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:

- Summer 2019: Seed Breeding
- Fall 2019: Cooperatives
- Winter 2019-20: Glyphosate

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.

Advertisers and Sponsors see rate and deadline information at www.TheNaturalFarmer.org. Click the menu bar under “Advertising”.

Moving? The Natural Farmer will not be for-
warded by the post office, so those who subscribe directly should send address changes to us. Most readers, however, get this as a NOFA member ben-
efit 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/scoll/digital/nfa/. 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

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or before her Diggy) we reply, “They never get the chance. We have a farm dog!”

There are dogs and then there are dogs. Many folks have friendly pets, good with children and devoted to the family and property. But not that many, we find, have farm dogs. The prime requirement for a farm dog is that it live outside, including sleep-
ing outside, visiting the house only for minutes at a time, not long enough to inhibit the growth of a dense fur coat. In our experience the vari-
doesn’t matter (except for being able to grow a dense fur coat, and maybe not have short legs). Mutts are probably best, bred for nothing in particu-
lar and ready to take your suggestions. They need to be big enough to give a coyote or fox pause, but mostly need to be loud. It is amazing how a single barking dog can keep a whole pack of coyotes at bay, unwilling to risk coming out of the woods and into the open.

We’ve managed in these back woods by having a farm dog(s). He/she/they not only protect our chickens and turkeys and young pigs and cows, but also all our fruits and vegetables from deer, rabbits, woodchucks, raccoons and similar herbivorous var-
nints. Truth to say, I’m not sure we would be able to farm in this location without a farm dog.

We’ve worked out an accommodation with our dog officer (our town has a leach law) who respects working dogs and lets them roam our fields if they stay out of trouble. We’ve worked out an under-
standing with each replacement puppy we get every 8 to 12 years defining the level of fraternizing we standing with each replacement puppy we get every 8 to 12 years defining the level of fraternizing we

But wait, something here rings a bell! Why is the shelter so all-fired anxious to take every dog out of the line of (re)production? Haven’t we had to deal with this kind of business before? Isn’t this system of restricting supply the exact same one corpora-
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But there is one area where our farm dog depen-
dency seems increasingly worrisome. It’s the one area where, naively, I did not expect trouble — the source of supply, i.e. puppies. It seems since we last refitted our doghouse 11 years ago with Franny and her shorter-lived sister Zooey, puppies from a litter one town over, there has been a drastic change in the realities of canine reproduction.

There are the for-profit breeders, who have always been there, producing high quality pure bred dogs for purposes of show or specialized use in hunting, guarding, companionship, or protection. The breed-
ers, just like farmers, work hard and are entitled to a good price. But I don’t want to pay close to a thousand dollars for a farm dog. The other supply, natural increase, seems to have been foreclosed sometime during the last decade when we weren’t looking.

Towns around us are now charging significantly more to license a fertile dog than one who has been spayed. Grown strays or abandoned dogs are im-
mediately neutered before being brought to shelters for ‘rehoming’, and if you adopt a puppy at one of those facilities you are required to neuter it as soon as it is old enough, you don’t have full ‘ownership’ until you do, and if you forget they will take the dog to do it themselves and charge your credit card. (‘Adopt’ in this system might be a euphemism when you are giving them $400 – our local shelter price -- for the right to take it home and get it ‘fixed’.)

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And isn’t all this claimed to be done for the best of all motives? Doesn’t Monsanto say it is feeding the world with its seed, and the shelter that it is promot-
ing humane treatment for its puppies?

I’m sorry to say I detect a whiff of self-serving sanc-
timoniausness here. I wasn’t born yesterday.

But I am looking for a puppy that was. Or at least will be born tomorrow. Franny is getting old and hoping for a trainee. Anybody out there have a puppy on the way? We’ll give it a nice life, with

organic food and lots of exercise, and also do our bit to block anti-competitive practices in farming with a nice litter of its own.

P.S. The shelters around here, fortunately, have not yet consolidated their grasp of felines. We have a nice little collection of female farm cats, are expect-
ing a slew of kittens, and if asked would happily

trade a basketful of them for the puppy.
Dear Jack,

In the special issue on Alternative Certification Programs, you wrote an impressive piece summarizing the entire history of the National Organic Program. You covered a lot of information and overall, did a good job as you so often do.

I was very disappointed, though, by your failure to even mention the work that NOFA’s policy committee and the organizations we have belonged to — the National Campaign for Sustainable Agriculture’s Organic Committee which was succeeded by the National Organic Coalition (NOC) — have done since 1989. It was the Organic Committee of the National Campaign that led and orchestrated the successful campaign that forced USDA to rewrite its first proposed Rule in 1997. Since its founding in 2001, NOC has commented extensively on every proposal from the National Organic Program and sent delegates to participate in the bi-annual meetings of the National Organic Standards Board (NOSB). Before each of these meetings, NOC convenes a gathering of all the various people attending (farmers, industry as well as NOP staff) to discuss hot issues, exchange ideas and help build organic cohesiveness to maintain the integrity of the organic label. Working quietly behind the scenes, NOC has written language for the NOP and for NOSB members, helped the program solve sticky problems, and also pressured the agency to listen to organic farmer voices. Once a year, members of the NOFA policy committee travel to DC to join other NOC members in lobbying for such things as continued funding for the organic certification cost share program, increased funding for organic research, prevention of fraud in organic trading, and classical breeding of organic seeds and breeds instead of GMOs.

With RAFFI as fiscal sponsor, NOC members include organic farming associations like NOFA and MOFGA, not for profits like Beyond Pesticides, Consumer Reports and Center of Food Safety, and commercial entities like the National Cooperative Grocers and Equal Exchange. Decisions are made by consensus, so we hammer away at thorny issues until our diverse members are all satisfied. You had a fine article on NOC in the issue on NOFA Allies.

The article in question was not to give a full picture of the NOP and all the organizations which have formed around it to represent various interests, but was rather to record its origins and purpose, and how to many observers it is in the process of failing to stand up to the pressures vested interests can bring to bear using money and political power. NOC and the Policy Committee have fought valiantly to resist these pressures, but are not yet calling for new certification programs — the discussion of which was the purpose of this issue. I do feel that the earlier issue (Summer 2018) on Organic Allies, as you suggested, did a good of representing NOC and it needed no further praise from me.

Thank you again for your eagle eye and vigilance. It always keeps me on my toes — Jack

Dear Jack,

Sorry I was too late for you to publish my response to the Fall issue — hope there is some other way to keep that conversation going.

This is yet another thought-provoking issue — I’m extending gratitude for reprinting the excellent Seven Days article about Enid. We are all awed by her indomitable spirit as her health declines. I am feeling rather dismayed, however, at your rendition of the history of the NOP, in particular the discussion of the First USDA Organic Rule, December 1997 — without reference to the inside story about what it really said from a longtime NOFA leader and principal author of that rule — as told in Organic Revolutionary.

A major reason for my writing this book was the need to debunk the widely held belief, repeated in your article, that “The standard for ‘organic’ under this proposed Rule — with respect to the discussion of the First USDA Organic Rule, December 1997 — without reference to the inside story about what it really said from a longtime NOFA leader and principal author of that rule — as told in Organic Revolutionary.

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The rest of the article is largely accurate, for which you deserve commendation. But I for one consider this single misconception (known as “the Big Three”) about the first proposed rule to be “the root of much of the anger and distrust of ‘USDA Organic’ that continues to plague our movement and erode consumer confidence in the value of organic products in the marketplace.

I think we all agree that organic farming holds the key to mitigating and beginning to reverse climate chaos. My fondest wish is that, despite whatever disagreements we may have about details and strategies, we can work together to help expand organic acreage (certainly encouraging more regenerative practices at the same time) and access to good organic food — as quickly as possible. For the sake of our children and grandchildren.

Grace Gershuny

Thanks for the letter, Grace.

You were as active as anyone during the period of the formation of the NOP, working for the USDA to set it up, and I am in no place to contradict your interpretation of events.

I do know that the huge majority of organic advocates at the time took the Big Three as allowed and your request for public comment to be seeking reaction to a proposed standard. You say that you were ‘forced’ by the Office of Management and Budget, but public employees who are forced to do something do have options, including resignation. It is always a choice whether a dramatic break is the best way to deal with a disappointing relationship, or to stay involved and try to work from the inside.

I wish I were as confident as you that organic farming holds the key to mitigating or reversing climate change. I think even more is required than organic principles, although they are crucial. Too many of us practice excessive tillage, do not use cover crops, do not keep bare soil protected from erosion, do not irrigate, do remove post-harvest organic matter that should be left in the field to feed the microbes.

It will be a hard task for us to adopt carbon-friendly farming methods. Some of us may have to experience reduced farm viability until new methods are found. But we really have no choice. Our ability to continue to exist on this planet is ultimately in the balance.

Jack

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Letters to the Editor

Dear Jack,

Thanks for the modulated praise, Liz! I hold NOC in very high esteem. Their work is tireless and thoughtfully done. The NOFA Policy Committee is also composed of respected farmers and other members, and is led by Steve Gilman who has years of dedication and experience under his belt.

The article in question was not to give a full picture of the NOP and all the organizations which have formed around it to represent various interests, but was rather to record its origins and purpose, and how to many observers it is in the process of failing to stand up to the pressures vested interests can bring to bear using money and political power. NOC and the Policy Committee have fought valiantly to resist these pressures, but are not yet calling for new certification programs — the discussion of which was the purpose of this issue. I do feel that the earlier issue (Summer 2018) on Organic Allies, as you suggested, did a good of representing NOC and it needed no further praise from me.

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Jack
Obituary: Enid Wonnacott, 1961–2019

Enid Wonnacott passed away peacefully from breast cancer, surrounded by her family at their home in Huntington on Saturday, January 19, 2019. She was 57 years old.

Enid lived a life filled with family, friends, horses, sheep, chickens, ducks, dogs, gardens, sports, outdoor adventures and a long career in organic agriculture.

Enid was born on August 29, 1961, to Bruce and Erica Wonnacott. The family moved to Middlebury in 1968 and later to Weybridge.

As graduation neared, Enid applied to veterinary school and met her future husband, Harry Frank. Together, they moved to Huntington, where they both pursued further education and their careers — Harry as an educator, and Enid as an organic certification agent and executive director of the Northeast Organic Farming Association of Vermont (NOFA-VT), beginning that work while a graduate student at the University of Vermont.

Enid began her tenure at NOFA-VT in 1987, inheriting two milk crates and one filing cabinet. Over her long career, she worked to develop the National Organic Program — developing a farmer-driven organic certification program, championing a robust farm-to-school partnership that became a national model for broadening access to local and organic food, and leading NOFA-VT with an open-minded approach that made room at the table for everyone.

Enid believed that collaboration and mutual support were critical to sustaining agriculture in Vermont and helping more farmers move toward organic practices. Her work was honored with an induction into the Vermont Agricultural Hall of Fame last summer. Enid was the first member of the Vermont Farming Association of Vermont (NOFA-VT), an organization that became a national farm-to-farm partnership that became a national model for broadening access to local and organic food and the farmers who produce it. Launched in 2006, the portable pizza oven fulfilled a vision Enid had for gathering people around food in a way that fostered connection and conversation.

And, since her cancer diagnosis in 2014, working the oven also provided Enid a way to get out and see people, which she described as “a really healthy thing to do, especially when you have chemo brain.”

Many people who worked with Enid described her positive energy and balanced approach as both an anchor and a beacon, as well as a source of fun, through the hard work of building a movement. She is remembered as the first one to turn on the music and get everyone dancing at many events.

Harry and Enid were married in 1990 and had two children, Lila and Eli. Enid seamlessly blended her work with her family life — bringing Lila and Eli along to meetings and events from the time they were infants through this past fall, when they helped her cook pizza in NOFA’s traveling oven. Enid kept a collection of pictures showing her with Lila and Eli, as well as local, national and international farmers, advocates, policy makers and politicians. She ultimately retired in December 2018.

Enid’s love of the outdoors was evident in their home, where every window offers a beautiful view; the small farm she and Harry worked together; the many canoe trips with family and friends; travels across the country and the globe; and her abiding interest in long walks.

Enid continued her love of sports as a field hockey coach at Champlain Valley Union High School and nordic skiing with the Bill Koch Kids Ski Program. She could be found every year on the sidelines of the Vermont State Field Hockey Playoffs and the Cross Country Ski Championships, cheering on all the athletes from every team.

Enid was predeceased by her parents and is survived by her husband, Harry Frank; their two children, Lila and Eli; sisters Megan Sutton of Weybridge and Robin Davis of Norwich; nieces Elsie, Alison, Doris and Laura; and nephews Bruce, Will, Graham, Wesley and Alex.

There will be a tribute to Enid at the NOFA Conference on February 16 and a celebration of life at Shelburne Farms on June 16. Special thanks to the many friends and family who provided food, company, love, support, and a collection of the most beautiful and touching cards — as well as to the doctors and nurses at UVM Medical Center and the hospice team from Visiting Nurse Association. NOFA-VT has established a fund to continue the work that was so important to Enid. Donations can be sent to The Enid Fund, c/o NOFA-VT, P.O. Box 697, Richmond, VT 05477. Additionally, Enid’s family encourages donations to the cancer charity of your choice.

Also, there’s going to be an Enid’s Orchard project with farmers planting an apple tree on their farms in her honor, as well as a statewide farm-to-farm walk to raise awareness of organic agriculture and community. Enid had a vision of hundreds of people joining together to walk for the cause.

reprinted from Seven Days
News Notes
compiled by Jack Kittredge

Organic Food Reduces Cancer Risk
A study published in the December, 2018 issue of the Journal of the American Medical Association (JAMA) Internal Medicine has found that people who eat the most organic food are 25 percent less likely to develop cancer. Most of the volunteers were women in their mid-40s. The research team hypothesized that the reduced risk (86% reduced for non-Hodgkin lymphoma and 34% for post-menopausal breast cancer) was caused by reduced exposure to pesticide residue on food.
source: The Organic and Non-GMO Report, Nov.–Dec. 2018

Sikkim First “100% Organic State”
The Northeastern Indian state of Sikkim has received the “Future Policy Award” from FAO, the World Future Council, and IFOAM. It is the first fully organic state in the world. All its farmland is certified and all chemical fertilizers and pesticides have been banned (after a phase out period). The state’s tourist trade has increased 50% since 2014.
source: The Organic and Non-GMO Report, Nov.–Dec. 2018

US Non-GMO Corn and Soy Acreage Down
In 2018 US farmers planted non-GMO corn and soy on 12.1 million acres, down by about five percent compared to 2017. The largest decline in soy was 33% in Missouri; the largest corn decline was 39% in Illinois. Total non-GMO corn and soy acreage equaled 7% of total corn and soy production.
source: The Organic and Non-GMO Report, Nov.–Dec. 2018

31% of General Mills Shareholders Vote Against Pesticides
A shareholder motion at the General Mills stockholder meeting to eliminate pesticides like toxic neonicotinoid bee killers and the carcinogenic glyphosate from their supply chain garnered a surprising 31% of the shares voted. The shareholder motion was put forward by the non-profit As You Sow and the Green Century Equity Fund, a mutual fund.
source: The Organic and Non-GMO Report, Nov.–Dec. 2018

Frequency of Organic Food Consumption Inversely Associated with Cancer Risk
Although organic foods are less likely to contain pesticide residues than conventional foods, few studies have examined the association of organic food consumption with cancer risk. Now a study released in the Journal of the American Medical Association on October 22, 2018 has evaluated this risk in a large cohort of French adults. For 16 products, participants reported their consumption frequency of labeled organic foods (never, occasionally, or most of the time). An organic food score was then computed.
Among 68,946 participants, 1340 first incident cancer cases were identified during follow-up, with the most prevalent being 459 breast cancers, 180 prostate cancers, 135 skin cancers, 99 colorectal cancers, 47 non-Hodgkin lymphomas, and 15 other lymphomas. High organic food scores were inverse-
Hemp Legalized for US Farming

The 2018 Farm Bill removed hemp from the list of controlled substances and legalized its use as an agricultural commodity. The legalization of hemp includes all parts of the plant, includes cannabinoids, and specifically removes hemp extracts containing CBD from control under the Controlled Substances Act. (About 79% of hemp grown currently in the US is used to make CBD oil for pain, inflammation, anxiety and other health problems.) Implementation of the law will take some time, however, with the USDA needing to approve state regulatory plans. The USDA’s new symbols for foods containing genetically engineered ingredients, New GMO Labeling Law Finally Published

The USDA has finally published the “National Bioengineered Food Disclosure Standard” required in 2016 when Congress passed the ‘Dark Act’ pre-empting state requirements of labeling GMO foods. The regulation lives up to the purpose of the Dark Act – to confuse consumers so they couldn’t reject GMO foods at the cash register. The reg allows foods to use complex QR codes, rather than on-package information. It also exempts from disclosure soft drinks containing high fructose corn syrup, and oil from GMO corn, soy, and canola. Meanwhile, Congresswoman Chellie Pingree called the regulation “an insult to consumers.”

Organic Now Accounts for 14 Cents on the Dollar

According to recent Nielsen data, organic produce sales continue to grow at a much faster pace than conventional produce sales. Nielsen posits that “mindful moms”—those seeking the best and safest food for their children and families—are driving the continued upswing in organic food purchasing. This idea is bolstered by baby food purchasing trends, where more than 25% of sales are organic. Organic sales overall are expected to continue to rise as “mindful moms” and millionaires appear to be willing to pay more for good food.

Plagiarism scandal rocks EU regarding safety of glyphosate

In 2017, the European Union decided in an unusually dramatic vote to reauthorize the agricultural use of glyphosate, the controversial weedkiller believed by some to cause cancer in humans. Environmental activists had joined forces with researchers from control under the Controlled Substances Act. Scientists have discovered that the sound of vibration of bees’ buzzing causes the evening primrose flower to sweeten its nectar. The study was published in the National Geographic of January 15, 2019. Findings like this open the door for more mechanistic worldview reinforced by industrial agriculture.

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Court Strikes Down Iowa’s ‘Ag-Gag’ Law That Blocked Undercover Investigations

A federal judge in Iowa says it’s no longer a crime to go undercover at factory farms, slaughterhouses and any other agricultural operations. The 2012 law was a clear violation of the First Amendment, the judge said. The Animal Legal Defense Fund, one of the plaintiffs in the case, called the ruling “a win for free speech and animal protection.”

Bayer to Sell Businesses, Cut Jobs After Monsanto Deal

Bayer, the German drugmaker that bought U.S. seed company Monsanto, has announced the sale of a number of businesses, around 12,000 job cuts and 3.3 billion euros ($3.8 billion) in impairments. Chief Executive Werner Baumann is under pressure to boost Bayer’s share price after a drop of more than 35 percent, dragged down by concern over more than 9,000 lawsuits it faces over an alleged cancer-causing effect of Monsanto’s Roundup weed killer.

But 18 other member countries voted in favor of renewing the chemical’s license.

That decision was largely based on the findings of a report commissioned by the EU and written by the Chartered Institute of Environmental Risk Assessment (BfR). The BfR reviewed all the available scientific evidence on glyphosate and concluded that “classification and labeling of glyphosate for carcinogenicity is not warranted.” Now a group of European have released a peer-reviewed study that compared the BfR risk assessment with a report submitted to EU authorities by Monsanto and other members of the European Glyphosate Task Force, an agbiotech industry group. The study found that BfR researchers extensively plagiarized the task force report; it alleges that they should have cited “whole paragraphs and entire pages of running text describing the design and outcome of the studies [and their risk assessments] to glyphosate” and assessing their relevance and reliability.

In those chapters that dealt with assessing available research on the effects of glyphosate, the study found that “50.1% of the content was identified as plagiarism.” That would mean that, instead of doing its own evaluations of glyphosate studies, the BfR would have copied those done by the agrochemical industry, but presented it as their work. This is consistent with scientific literature showing that industry-supplied studies play an outsized role in the research process surrounding pesticides.

The question of whether glyphosate causes cancer in humans is central to this story. If the answer is “no,” then this plagiarism scandal has relevance for millions of people around the world.

source: az.com, January 16, 2019

source: Successful Farming, November 29, 2018

source: Cornucopia Institute Email, February 2, 2019

source: The Organic and Non-GMO Report, January-February 2019

source: Dr. David Perlmutter, October 22, 2018

source: Successful Farming, November 29, 2018

source: The Organic and Non-GMO Report, January-February 2019

source: AORN, February 2, 2019
Fred Provenza is a lifelong westerner. Born and educated in Colorado, he was a university professor for 35 years in Utah before retiring to Colorado and Montana. He brings an amazing observational acumen, as well as a thorough knowledge of plants, herbivores, and their grazing habits on both wild and domestic fodder, to this book.

His basic insight about the existence of ‘nutritional wisdom’ is something most of us at some level already know. He perhaps states it best early in the book, discussing his experiences as a young college sophomore, collecting and identifying hundreds of plants along a Colorado stream and meadow.

“Plants are the glue that links soil with herbivores, omnivores, and carnivores. Land is a cascade of energy, flowing from the sun through plants into soil and animals below and aboveground. A species is a strand in a web, linked with millions of other strands.

“Plants are also the founders of the feast – all creatures ultimately eat plants. So no discourse on nutritional wisdom can be complete without considering not only how animals eat but also how plants procure the sustenance they need. And beyond that, we must also consider: How do plants manage to provide for the needs of animals and also sustain themselves?”

The most important way that plants have managed to do both through the last almost half billion years of life on earth has been to evolve themselves as organic chemists. A typical example, one of the earliest plants to appear in a Colorado spring, soon after snowmelt, is the pasque flower *Pulsatilla ludoviciana*. Fresh pasque parts are toxic if eaten or even touched to the skin. Dried, however, the plant is used as medicine in Europe and North America for menstrual pain, skin diseases, asthma and eye infections. It is also used as a diuretic and expectorant to clear airways. Homeopaths used it for measles, toothache, earache and indigestion. It contains compounds found to be antibacterial, antimalarial, antifungal, and to have cytotoxic effects as well.

This is just an example. Provenza details how plants, ‘dumb’ organisms as they are, create not only primary compounds containing the energy, proteins, vitamins and minerals they need to grow and reproduce, but also create secondary compounds – such things as phenolics, terpenes, alkaloids and many, many more metabolites – which inhibit competing plants while increasing their own strength through drought tolerance, pest resistance, larger tiller numbers and biomass, greater seed mass and quantity, and faster germination rates.

Some of these compounds, like lignins and tannins, help build soil organic matter and humus. Antioxidants protect plants from free radicals produced during photosynthesis; flavors, aromas and colors attract pollinators and fruit eaters. Other metabolites boost recovery from injury and enhance regrowth. Secondary compounds also serve to regulate loss of plant tissue to predators – bacteria, fungi, insects, birds and mammals – by limiting how much each can eat before experiencing ill effects. Limiting intake results in encouraging diversity among grazed species and locations.

Just as plants, as stationary organisms, evolved their thousands of secondary metabolites to attack and defend, entice and repel, heal and sicken, the herbivores eating them equally evolved responses to help them sort through the hundreds of unique grasses, forbs, shrubs and trees in any meadow or glen. Animal nutritional needs change seasonally, with age and condition, when pregnant or infested with parasites, when ill, hot or cold. To meet their changing needs, herbivores must sort through a bewildering array of biochemically active plants when making grazing decisions.

Certainly grazers need to make the right primary choices, fluctuating daily as they do, for energy, protein, vitamins and minerals to survive. But these choices necessarily include the secondary compounds in every mouthful – some parasiticides, some analgesics, some stimulants, some...
The Natural Farmer

The organ expressed exactly those strong food cravings for food items that person has never preferred and in many cases had disliked. When the recipient of a new organ to have strong preferences associated with organs or even cells. It is not uncommon in transplant cases, he shows, many studies in animal behavior show the clear preferences of grazers for certain plants at certain times, with those preferences changing based on what has just been eaten. These choices of animals are not inherited but learned, as many cleverly designed studies show. Sheep or goats newly introduced to an area will sample the fodder naively until post-digestive body feedback kicks in to inform them about what they have just eaten. Kids grazing with their mothers will quickly pick up the maternal preference patterns and repeat them, whereas those separated from such instruction will struggle to find what satisfies and what disturbs them.

In some of his most fascinating stories demonstrate this ‘nutritional wisdom’. For starters, far more animal nerves ascend from the gut to the brain than the other way. Is the body voting the brain or the gut based on what has just been eaten? The many animal behavior studies Provenza discusses are convincing evidence that animals have evolved very sensitive preferences and feedback loops which guide every choice of food. How do herbivores wander aimlessly through these choices? Certainly not. Provenza shows. Evolution is too tough a master. The continual contrast between secondary metabolites and grazer intelligence quickly abandons those who do not keep up. The many animal behavior studies Provenza presents are convincing evidence that animals have evolved very sensitive preferences and feedback loops which guide every choice of food.

Fred is well aware of the forces that militate against humans exercising their innate nutritional wisdom. Human food quality has fallen significantly in the last generation or two, Provenza cites the well-documented cases of food preferences changing based on what has just been eaten. These choices of animals are not inherited but learned, as many cleverly designed studies show. Sheep or goats newly introduced to an area will sample the fodder naively until post-digestive body feedback kicks in to inform them about what they have just eaten. Kids grazing with their mothers will quickly pick up the maternal preference patterns and repeat them, whereas those separated from such instruction will struggle to find what satisfies and what disturbs them.

In some of his most unusual of Fred’s stories he cites the well-documented cases of food preferences associated with organs or even cells. It is not uncommon in transplant cases, he shows, for the recipient of a new organ to have strong cravings for food items that person has never preferred and in many cases had disliked. When investigated, it turns out the previous owner of the organ expressed exactly those strong food preferences!
The Story of a Weed Killer, Cancer, and the Corruption of Science
by Carey Gillam
Whitewash is a well-researched book by a woman who has a 25 year career as a journalist and researcher, most of those years with Reuters. She came to this issue as a relative neophyte with no farming background. She admits to having used Roundup on her property in an earlier life. Sometimes I think the lack of a personal background in farming was a deficit for her, particularly in the end of the book when she discussed alternatives, where I think she was weak. But generally, I think the power of this book lies in the fact that Carey Gillam came to the topic of glyphosate with fresh eyes and a researcher’s rigor that left me feeling very confident about the veracity of the words that she put on paper.

Glyphosate and genetically modified crops have a very entwined story. Though glyphosate has been in use since 1974, according to Gillam Monsanto introduced GMO crops in part because the patent was scheduled to run out in 2000 and by linking the use of GMO crops with their product Roundup (which contains glyphosate and polyethoxylated tallow amine POEA- as a spreader sticker) to continue to enhance sales of this financially lucrative product. US farmers used 40 million pounds of it in 1995 compared to 276 million pounds in 2014. And it is now registered for use in 130 countries, considered the most heavily used agricultural chemical in history.

Glyphosate seems to have been given a pass by the US government regulatory agencies. Though the US Food and Drug Administration (FDA) and the US Department of Food and Agriculture (USDA) annually test thousands of food products for hundreds of pesticides, the US government regulatory agencies. Though the US Environmental Protection Agency (EPA) which regulates pesticides, has been allowing higher and higher allowable levels of glyphosate in food. In 2013 the EPA raised the tolerance to well beyond levels acceptable in other countries.

Chapter 1 discusses the personal case of a farmer in CA who died of non-Hodgkin lymphoma (NHL) after chronic exposure to glyphosate for many years. Jack McCall refused to use other chemical pesticides on his farm due to concerns over toxicity, but considered glyphosate safe. NHL has spiked over the past several decades making it the 10th most common cancer worldwide. There are now around 8,000 lawsuits from plaintiffs on this issue and a landmark ruling was made in late 2018 (after this book was published) awarding damages to DeWayne Johnson, who suffers from NHL. An interesting piece of history that Gillam relates showed that in 1985 the EPA listed glyphosate as a probable human carcinogen. Six years later after “extensive input from Monsanto” the agency changed its tune to say that it found “evidence of non-carcinogenicity for humans.”

One of the Monsanto plaintiffs wraps up the thesis of this book quite well with the following statement. Aaron Johnson, a farmerworker from Hawaii stated, “I think they’ve known since the 70’s this stuff can cause cancer. And now on the scale that it has been distributed and used……this molecule is everywhere in our food, our water. They say it can be found in every person. As time goes on we are going to find out that it is a lot bigger than people can ever imagine right now. All for profit—all for the sake of making billions a year off this one product. I don’t understand how they’ve been able to get away with it.”

Another important message from Chapter 1 relates the history of DDT, Agent Orange, and PCB’s and their eventual bans, in all cases only happening after continued consumer outrage and warning by scientists and researchers.

In Chapter 2 the author shares the history of glyphosate with us. The Swiss chemist Henri Martin discovered N-(phosphonomethyl) glycine, or glyphosate with us. The Swiss chemist Henri Martin discovered N-(phosphonomethyl) glycine, or glyphosate in 1950. But because he was unable to come up with any appropriate pharmaceutical use for

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John Franz, a Monsanto employee recognized the value of glyphosate as an herbicide in 1967 and in 1974 Monsanto put Roundup on the market after it received a patent from the US Patent Office. The other notable active ingredient in Roundup besides glyphosate is ethoxylated tallowamine surfactant. Some fear it is even more dangerous than glyphosate. Interestingly, Franz was subsequently showered with awards, including the National Medal of Technology and Innovation, bestowed upon him by President Reagan in 1987. Quoting Franz, “... an environmentally friendly product that is beneficial to mankind.” Later Franz was named to the National Inventors Hall of Fame. The rest of this chapter illuminates a litany of fraud and suppression of evidence around glyphosate’s carcinogenicity, involving Monsanto scientists and the EPA.

Chapter 3 details the roll out of the Roundup Ready crops starting in 1996 when Roundup Ready Soybeans came on the market. By 2000 Monsanto was also selling Roundup Ready corn, cotton, and canola. Clarifying to their shareholders that a major part of the development impetus of GMO crops was to boost Roundup sales, Monsanto bragged that it saw an 18% rise in glyphosate sales from 1999 to 2000. The next few years the Roundup Ready crops grew to include alfalfa and sugar beets.

I remember during this time period arguing with my “environmentally liberal” friends about the use of GMO’s and glyphosate. The argument put forth by Monsanto and all of the chemical companies, really since the green revolution, was that this type of technology was essential for us to feed the world. What most amazes me about this whole process of Monsanto and other chemical companies getting the use of their chemicals approved, almost seemingly carte blanche, has been their extremely clever marketing capability – to not only sell the government agencies, whom I have never had faith in, but thinking people who often are avid supporters of a healthy environmental ecology. Would that we in the organic world were such effective marketers! By 2013 90% of the US soybean crop was genetically engineered, as was 80% of American corn.

In 2008 the US Government Accountability Office, the investigative office of the US Congress, cited several problems with biotech regulation concerning undesirable effects on the environment, non-GMO segments of agriculture, or food safety. But often, when these concerns made it to court in a lawsuit, Monsanto reigned victorious. Notably, Monsanto had a court ruling in California banning the planting of GMO alfalfa brought to the Supreme Court in 2010 where it was overturned 7 to 1. Justice John P Stevens, the dissent, stated in his conclusion, “Confronted with those disconcerting submissions with APHIS’s unlawful deregulation decision, with a group of farmers who had staked their livelihoods on APHIS’s decision, and with a federal statute that prizes informed decision-making on matters that seriously affect the environment, the [District] court did the best it could. In my view, the District Court was well within its discretion to order the remedy that the [Supreme] Court now reverses. ...” In 1991 roughly 18.7 million pounds of glyphosate was used on crops in the US. By 2000 it was 100 million pounds and by 2015 286 million pounds. Interestingly the USDA quit reporting pesticide use on US farms in 2008. This work is now being done by academic researches and the Department of the Interior.

Next Monsanto promoted the use of glyphosate as a desiccant at the end stages of a crop’s growth. Spraying the herbicide on the crop to kill it and all the other local vegetation makes for a simpler harvest. Now crops of wheat, alfalfa, oranges, avocados, grapes, grapefruit, potatoes, almonds, pecans, walnuts, dried beans, and lemons are often sprayed with the chemical.

Chapter 4 is titled “Weed Killer for Breakfast”. Despite government refusal to test for glyphosate residues in food, private laboratories have taken over this responsibility. Testing shows residues in bagels, honey, oatmeal, flour, eggs, cookies, cereal, cereal bars, soy sauce, beer, coffee, and infant formula. Additionally it is now found in human urine. The Detox Project, a coalition of scientists and activists, states, “Glyphosate is present at all levels of the food chain; in water, plants, animals, and even in humans. Every single study that has measured human contamination has found it...” Late in the chapter there are details of glyphosate testing that was run by FDA chemist Narong Chamkaset over concern about glyphosate residues in oats. In 2016 he found residues in many oat products but FDA did not publish the findings. Later he did work on honey where he found that all honey examined including organic honey, contained residues, some of it 5 times more than the legally allowed limit in the European Union. In one intra-agency email exchange in 2015 Chamkaset stated, “I believe we will see a lot of violation for glyphosate.” Within a few months FDA halted his research.

Chapter 5 goes into the research that has shown, with many studies on experimental animals, a range of health problems including tumors, blood and pancreatic problems, and liver and kidney troubles. Brazilian studies found fatal malformation and cell death in rat testes. British studies in 2017 linked glyphosate to fatty liver disease. Also in 2017 Brazilian scientists found that lab animals given soy milk laced with glyphosate suffered damaging hormonal changes. In Argentina in 2010 research with frog and chicken embryos showed spinal defects. Andres Carrasco conducted this research in response to reports of increased birth and spinal defects in farming communities in Argentina after glyphosate use was approved in Argentina for spraying on GMO crops. In Sri Lanka scientific studies have suggested that a deadly chronic kidney disease that has affected thousands of people in farming...
areas is tied in part to exposure to pesticides, including glyphosate. Both Sri Lanka and El Salvador at one time declared a ban on the use of glyphosate because of an epidemic of a new type of chronic kidney disease. In 2013 four toxicology experts in Thailand found that glyphosate induced human breast cancer cell growth. And a 2009 French study found that glyphosate triggered endocrine disruption in human cells.

The big news of this chapter is the carefully chronicled account of how the World Health Organization’s International Agency for Research on Cancer stepped into the debate in 2015 when they found glyphosate to be a probable human carcinogen. I leave you to read the detailed account on how they came up with this decision and how Monsanto worked to discredit them.

The rest of the book really engaged me so much that I pulled a couple of all-nighters to finish it. Gillam goes into great detail chronicling efforts in Hawaii by residents to limit the use of pesticides near schools and efforts by local communities in Argentina to stop aerial spraying in the region. This is the real heart breaking part of the book – where many examples of death and child deformity and still-birth come to the fore. Gillam does an excellent job of bringing us into the homes of the victims where we see the powerlessness of real people to keep from being poisoned in the name of corporate greed, despite many well-organized campaigns to stop the chemical’s use.

We see organic or agroecological farmers down-stream from the spraying and ubiquitous use of this chemical who watch their crops die due to drift and pollution of their water resources. It reminded me how lucky I am to not live in an “agricultural region” of the state or country, I have vivid memories of aerial spraying in my native state of Illinois, and have lived my entire life with an impaired thyroid from growing up in the Heartland with its ubiquitous use of chemicals, even in the 1960’s.

There is a chapter on the super weeds and the re-introduction of Dicamba and 2,4, D to provide yet one more poison to try to outwit Mother Nature, while intensifying the environmental degradation and human health crisis in this country.

Many thanks to Carey Gillam for dedicating a few years of her life to tell this story in a well-researched, heavily documented fashion so that we can have a guidebook as we as activists attempt to change the minds of our neighbors, our local businesses, our municipalities and eventually the state and local governments. It is appalling to realize the monstrous power that Monsanto and other chemical companies have on seemingly all levels of government when it comes to the use of these toxins. This book is a must read for anyone who wants to know the back story on glyphosate and its negative impact on our entire globe.

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I was very interested to read this book as I have practiced Silvopasture for many years and am planning my biggest forest cut yet to support the practice for my 65 Devon cattle herd in the middle of New England.

Steve Gabriel, author of Farming the Woods (with Ken Mudge), is an ecologist, educator, and a forest farmer who has lived most of his life in the Finger Lakes region of New York and I have heard him speak at a few events, always interesting, always informative. Thus, I was looking forward to the book and his insight.

Steve breaks the book down into a logical format that brings clarity to farmers new to the practice but also with many well thought out insights for more seasoned practitioners of Silvopasture.

The first chapter defines silvopasture, especially delving into the modern practice of keeping crop and pasture lands separate from forests. Gabriel discusses in depth the benefits of managing these lands in a more symbiotic way, utilizing the compound effect of making the most of each area as part of a whole and working WITH each other part of the farm. The farm becomes, as Jerry Brunetti put it, an ecosystem on its own with no one part not dependent on the others.

The second chapter explores more of the history of silvopasture and tells of how sustainable silvopasture systems were the way things were done for hundreds of years but went out of use as farming, like life, became more compartmentalized (and short-sighted). He gives great examples of pig farms and other stories to highlight techniques mostly lost in America but still widely practiced in other parts of the world.

The third chapter moves into practice specifics and delves into fencing, animals and other basic concepts and issues. Although the information is basic enough for the beginner to start to plan his silvo-
pasture endeavor, his specifics on mapping and planning (think wind, water, light, soil type, fodder and tree species, etc.) are in-depth enough to afford even someone who has used silvopasture techniques before lots to add to their plans and many new ideas.

The next two chapters get into specifics on bringing animals into the woodlands or bringing trees into pastures and goes into great depth on the animals, the land and the systems needed that are unique to silvopasture – how DOES one address fencing in the woods and training animals to eat new foodstuffs? Steve did a great job in making you think about all the details you should be considering in your plans.

The last chapter delves deeper into planning to increase the odds of success.

Steve mentions working with what you have and starting with what you have – it’s expensive to plan an enormous project in time and money and Steve brings us along on how to address each step as a part of a process that can be planned and executed as the farmer has time and money available – it was nice to not feel one had to take out a second mortgage or stop doing their routine duties to jump into a big project – how to take bites of each course was very helpful. nice to not feel one had to take out a second mortgage or stop doing their routine duties to jump into a big project – how to take bites of each course was very helpful.

I really enjoyed the book – I learned and was entertained – a wonderful yet rare occurrence. It was particularly encouraging to read how planting trees or reclaiming hedgerows or scrub area or thinning woodlands can improve the health of the area used, the animals into the woodlands or bringing trees into pastures and goes into great depth on the animals, the land and the systems needed that are unique to silvopasture – and silvopasture practices – and it was how it WAS long ago and that wisdom was lost – and silvopasture practices – and it was how it WAS long ago and that wisdom was lost – and silvopasture practices – and it was how it WAS long ago and that wisdom was lost – and silvopasture practices – and it was how it WAS long ago and that wisdom was lost – and silvopasture practices – and it was how it WAS long ago and that wisdom was lost – and silvopasture practices – and it was how it WAS long ago and that wisdom was lost – and silvopasture practices – and it was how it WAS long ago and that wisdom was lost – and silvopasture practices – and it was how it WAS long ago and that wisdom was lost – and silvopasture practices – and it was how it WAS long ago and that wisdom was lost – and silvopasture practices – and...
Using commercial yeast instead of wild yeast typically yields beverages with higher alcohol contents. Baudar advises against brewing with bread yeast unless you want a beverage that tastes like bread. Sweeteners for feeding yeast could be tree sap, honey, molasses, fruit juices, malted grains or even insect honeydew.

Boiling fruit juice or unripe green pinyon pine cones concentrates their sugars into syrup. When boiled further, syrup becomes a thick “molasses.” Baudar describes making his own “wild brown sugar” with molasses made from blueberries, dates, blackberries and elderberries. Adding lemon juice helps preserve homemade molasses.

The Flavor chapter admits to being incomplete as there are too many possibilities and combinations to list from the author’s southern California neighborhood and globally. Baudar’s rule of thumb is: use “bitter flavors… for beers [and] sweet and fruity flavors for sodas.” He admits to making exceptions and that many of his creations have “murky” classifications.

About a millennium ago, herbs flavored with grapefruit, yarrow, ground ivy, dandelion, rue and other herbs. In the 15th century, German law declared that “beer” could only contain water, grains and hops. They forgot to mention yeast.

In beer, hops act as a preservative and antiseptic. When mixed with alcohol, hops act as a relaxing sedative. Hops are in the cannabis family and are related to hemp and marijuana.

Growing your own brewing garden is a great way to ensure a steady supply of your favorite ingredients. Baudar describes several herbal drying techniques from simple, inexpensive techniques like hanging herbs in a paper bag to using an electric dehydrator.

Brewing techniques can vary from steeping, cold brewing or hot brewing. Fragile aromatic herb flavors are often damaged by boiling so they are cold brewed or added late in the brewing or fermenting process. Fermentation vessels and other equipment are thoroughly explained and illustrated. Baudar prefers natural carbonation from yeast rather than adding carbon dioxide gas. Under pressure, carbon dioxide is absorbed back into the liquid. When the pressure is released, lids may pop and bubbles fizzle to the surface. Baudar shares tales of exploding jars of green pinyon pine syrup as an important lesson on why to use a fermentor or a loose-fitting lid so convictions do not explode during active fermentation.

As fermenters’ experience grows, Baudar recommends experimenting with a local “terroir” brew using bark, corns and mushrooms (safe varieties) from nearby forests, scrub areas, fields and/or gardens.

“The Wildcrafting Brewer” contains historical background and sources for wines, meats and sodas. Baudar also includes ethnic beverages, bread and fruit kvass as well as medicinal brews.

The book’s Resource List includes reference books covering American and regional plants and ingredients. Baudar advises pregnant women to defer experimenting with alcoholic beverages or teas made with herbs like horehound, wormwood, licorice, mugwort, yarrow until after their child is born. Experimenter should “start with something they actually know is not poisonous or unhealthy… a successful starter should smell good too.”


Read about Pascal Baudar at www.chelseagreen.com/writer/pascal-baudar. Based in greater Los Angeles, California, Baudar continues his work as a wild-food researcher, wild brewer and food preservation instructor. His classes and seminars have introduced thousands of home cooks, chefs and foodies to Nature’s magical flavors. Find a schedule of Baudar’s upcoming programs at http://urbanoutdoorskills.com/schedule.html

The Garlic Farmers’ Cookbook by Garlic Seed Foundation Published by Garlic Seed Foundation and Syractice Cultural Workers Garlicseedfoundation.info and syracuseculturalworkers.com 2014, $20, 126 pages, softcover, black and white review by Christy Bassett

These folks really like garlic. This cookbook begins with a table of contents that reads more like a menu: Appetizers, Dips, Dressings and Sauces, Beverages, Soups, Breads, Cakes, Cookies and Desserts, Chow Time, Entrees and Sides, Oils, Vinegars and Pickles, Tidbits and Fun. Who would have known that garlic had a place in every course?

In the introduction The Garlic Seed Foundation gives a brief history of how they collected recipes for the book from fellow farmers, garlic lovers and friends. They also mention that the recipes included are really more like guidelines—multiplying the amount of garlic from one clove to one bulb to taste in each recipe is mentioned more than once. (Because who doesn’t need more garlic?) Since it is written by farmers for farmers, the need for quick and easy recipes that can utilize homegrown ingredients is paramount. But the authors are also quick to note that winter time cooking may be different and that many of his creations have “murky” classifications. The introduction further, syrup becomes a thick “molasses.” Baudar concentrates their sugars into syrup. When boiled as pdf at https://issuu.com/pandoraspotatoes

Pandora’s Potatoes: The Worst GMOs by Caius Rommens self-published, 2018 paperback, 77 pages, out-of-print but can be downloaded as pdf at https://issuu.com/caiusrommens review by Bob Banning

In this self-published book, Caius Rommens, a former employee who developed GMO potatoes as an employee of a potato company, wants to warn us about these potatoes. Their claimed benefits, he says, are false, but the harm they can cause to both farmers and eaters’ health is real and serious. He supports his argument with 109 endnotes, most of which appear to be citing scientific and trade journals.

In the book’s foreword the author relates that over several years while working for his now-former employer he gathered observations about unintended effects that his work had on potatoes. He left his employer because he couldn’t in good conscience
continue to do the work that his position required.

In the introduction, Rommens states that the two main problems the potato industry struggles with are (1) coping with loss from diseases, pests, pathogen handling and (2) convincing people that French fries are healthy so they buy more of them. The main chapters explain how the author engineered potatoes to deal with these problems. The author's results led him to believe that the potatoes he was developing were bad for the potato as a species and also for consumers.

Chapter 1 discusses the “silencing” of a gene called PPO. PPO causes potatoes to bruise under stress. Blocking PPO was supposed to eliminate bruising. According to Rommens, however, PPO silencing hides bruises but does not actually eliminate them. Bruises develop at various stages of processing will not remove bruised potatoes since they don’t see the bruises. Diseases will develop at the sites of the bruises, and as these potatoes are processed by machinery, the machinery will be contaminated by pathogens, which will then also contaminate healthy potatoes. The author also claims that several toxins develop in PPO-silenced potatoes.

Chapter 2 explains that genetic engineers silenced the R gene to reduce the amount of acrylamide in French fries on the grounds that acrylamide is a carcinogen. Rommens counters that a person would have to eat at least a thousand times as much acrylamide as is in regular French fries to be a danger of cancer. Meanwhile, when ASN is blocked, it can’t play its important role in the [plant's] assimilation, storage, and use of nitrogen.

Chapter 3 evaluates the silencing of the INV gene, which is responsible for the plant’s production of glucose and fructose and thus for the color, aroma, and flavor of potatoes. Because INV-silenced potatoes produce less of these nutrients, they don’t smell or taste as good as nongenengineered potatoes, the author says. Glucose and fructose are also important for the health of the plant, and INV-silenced potatoes tend to be delayed in field emergence and may be compromised in fertility, according to Rommens.

Unlike earlier chapters, chapter 4 concerns the insertion of a gene rather than the silencing of one. Rommens begins by alleging that the gene “was isolated, without authorization or compensation,” from a plant in Argentina and that therefore the company that took it out of Argentina and used it to develop traits for U.S. potatoes violated the international Convention on Biological Diversity—an act of “biopiracy.” VNT was introduced into potatoes, he says, because of a resistance gene, R, that has been found to confer some resistance to late blight in potatoes. According to Rommens, however, this resistance will be short-lived, because the late blight pathogen will evolve resistance to the R gene and even if engineers replace this R gene with a new one or even if they “stack” several such genes, they won’t be able to keep up with the pathogen’s ability to evolve.

Chapter 5 argues that genetically engineered potato varieties produce lower yields and smaller potatoes, that the new traits are unstable, and that the altered genes in the potatoes can contaminate the DNA of pollinators.

Rommens concludes with a brief chapter arguing that potatoes should be bred for genetic diversity rather than uniformity, because genetically diverse potatoes would be more resistant to stress as a class and more nutritious and flavorful as food. He recommends “methods such as hybrid-seed technology.”

I’m not qualified to evaluate this book in scientific terms, but I do believe its arguments give reason for being suspicious of the claimed benefits of, and possibly for abandoning, genetically engineered potatoes.

Given other things I’ve learned from my reading and through NOFA, the kinds of things Rommens says happen when potatoes are engineered seem like the kinds of things that would happen. Even if I don’t know enough to accept all Rommens’ arguments with certainty, he’s given me a new set of questions to ask about the potatoes I buy.

In order to pursue their own questions, readers may be interested to know that the GMO potatoes mentioned in the book are called White Russet, Innate Potato, and Hibernate. From the internet I learned that Rommens’ former employer, the producer of these potatoes, is the J. R. Simplot Company. You can search for the above names to find out more about the dialogue between Rommens and J. R. Simplot.

Interestingly, although much of what Rommens writes is in harmony with principles of organic/regenerative agriculture, he asserts that pesticides are healthy. The author uses many graphics and helpful analogies to clarify scientific and other data. On the whole the book manages to communicate pretty well what the author believes is wrong with GM potatoes and will help you ask your own questions.

The author would have enhanced his credibility by investing in a good editor and book designer (full disclosure: I’m an editor). The text contains many avoidable errors, including grammar, punctuation, and spelling mistakes and confusing and illogical sentences. In reading the first two pages of endnotes, I found myself thinking I should be writing about the collisions and controversies that happen on these pages, and even if the author has a loud, grade-school-like way of using boldface, italics, underlining, and capitalization for emphasis. On the other hand, the author uses many graphics and helpful analogies to promote playing-it-safe and doing the same, tired, conventional approach to health issues again and describes his own orientation in the peer-reviewed scientific literature. He provides him with a scientific background and the perspective of an insider in the current medical research “establishment,” he remains independent and critical. In the chapters of Part 2 he covers #1. Fat and Cancer, #2. Hormones and Cancer, #3. Blood Clotting, and #4. Cancer. As with the proof that the system of health care in the United States often lags behind the EU and the rest of the world in regulating these compounds or even in requiring that their presence be included on product labels, the chapter also presents unique considerations for each category of estrogen.

Chapter Three, as noted earlier, digresses from the biochemistry to discuss the politics of financing and publishing in science. Jay illustrates these issues with a discussion of the marketing of soy, especially soy protein isolate, for most of the twenty past years.

Part 1 ends with Chapter Four, which presents information on where estrogens are found in the environment: in water, including municipal drinking water; in the air, especially indoor air; and in food, especially processed food. The chapter also presents unique considerations for each category of estrogen.

Part 2 consists of three chapters that describe the effects of estrogens on human health. Each chapter describes the research leading to the discovery of estrogenic compounds in nontraditional sources and why they have estrogenic activity. The chapter on estrogenic compounds in food leads into several of the topics of the book, since fish often serve as sentinel species, or “canaries in the coal mine” (garden the mixed metaphor) of problems that mammals, including humans, face due to estrogens.

The book consists of three parts, ten chapters in all. Chapter One provides a definition of estrogens: “a class of molecules that are structurally similar to estrogen,” or, alternatively, “something that sticks to estrogen receptors in your body.” The chapter then discusses estrogen receptors and their prevalence in multiple organs and glands in the male as well as the female—the importance of estrogen in male reproductive biology and the impact of hormones including estrogen, in contrast to the much faster, but relatively transient nature of nerve impulses. Finally, Jay presents his Estrogenic Fat 401A as the most powerful estrogens which is the evidence in published scientific studies that each of the Top 10 Estrogens is, in fact, estrogenic. The chapter describes the legal status of each estrogenic and notes that the United States often lags behind the EU and the rest of the world in regulating these compounds or even in requiring that their presence be included on product labels.

The chapter also presents unique considerations for each category of estrogen.

Chapter Eight, which begins Part 3, Jane mentions “The Seventh Son.” He continues on with the chapter.

The chapter actually focuses on the concept of epigenetics, a critical component of transgenerational infertility problems. Jay defines epigenetics as the study of marks that are added to your DNA.” I do think that Jay could have been clearer at this point in the chapter in stating that the “marks” he mentions function as “a class of molecules that are structurally similar to estrogen,” or, alternatively, “something that sticks to estrogen receptors in your body.” The chapter then discusses estrogen receptors and their prevalence in multiple organs and glands in the male as well as the female—the importance of estrogen in male reproductive biology and the impact of hormones including estrogen, in contrast to the much faster, but relatively transient nature of nerve impulses. Finally, Jay presents his Estrogenic Fat 401A as the most powerful estrogens which are found in many “BPA-free” plastics, and finally, a birth-control estrogen.

Among the plant estrogens, soy and flax vastly exceed other plant sources, so these are the ones that focus on. But Jay also mentions fenugreek, black cohosh, and lavender, the latter showing up more in personal care products than in food. There is only one fungus estrogenic, zearalenone, but it shows up in a variety of starch food products, especially in the animal feed for the animals that eat those grains. Including plastic packaging material, six of the ten categories are actually more related to food. The others are personal care products.

Chapter Two opens with the question of whether total elimination is too extreme. If we attempt total avoidance, will it simply distract us from prioritizing other public health pursuits? This question, to which I will return later, leads to the chapter’s focus, which is the evidence in published scientific studies that each of the Top 10 Estrogens is, in fact, estrogenic. The chapter describes the legal status of each estrogenic and notes that the United States often lags behind the EU and the rest of the world in regulating these compounds or even in requiring that their presence be included on product labels. The chapter also presents unique considerations for each category of estrogen.

Chapter Four provides a definition of estrogens: “a class of molecules that are structurally similar to estrogen,” or, alternatively, “something that sticks to estrogen receptors in your body.” The chapter then discusses estrogen receptors and their prevalence in multiple organs and glands in the male as well as the female—the importance of estrogen in male reproductive biology and the impact of hormones including estrogen, in contrast to the much faster, but relatively transient nature of nerve impulses. Finally, Jay presents his Estrogenic Fat 401A as the most powerful estrogens which are found in many “BPA-free” plastics, and finally, a birth-control estrogen.

Chapter Five is dedicated to the topic of hormones and their effects on human health. The chapter begins with a discussion of the marketing of soy, especially soy protein isolate, for most of the twenty past years.

Part 1 ends with Chapter Four, which presents information on where estrogens are found in the environment: in water, including municipal drinking water; in the air, especially indoor air; and in food, especially processed food. The chapter also presents unique considerations for each category of estrogen.

Chapter Three, as noted earlier, digresses from the biochemistry to discuss the politics of financing and publishing in science. Jay illustrates these issues with a discussion of the marketing of soy, especially soy protein isolate, for most of the twenty past years.

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A Farmer's Guide to Climate Disruption
by Rebekah L. Fraser

The Natural Farmer
Spring, 2019

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The challenges that I felt left with at the end of the book is from IFOAM's Andre Leu: "We have a once in a generation chance to stop this. We don't want to have another generation of children and grandchildren. We don't have to invent any new technologies. We just have to scale up good practices."
I found my spark...

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