South African Farmer Angus: “I Won’t Force the Vaccine on My Staff”

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“I Won’t Force the Vaccine on My Staff” – Farmer Angus

by **Jeremy Nell**, *Jerm Warfare*
August 26, 2021

His name is Angus McIntosh and his farm is called Farmer Angus.

> *Farmer Angus is one of two grass fed, pasture-reared beef producers in the Western Cape. Biodynamic and regenerative agricultural principles and practices are applied in the raising of the farm’s animals which includes cattle, pigs and laying hens, as well as vegetables and wine. Situated on 126 hectares of irrigated pasture at Spier Wine Estate near Stellenbosch.*
>
> *Our charcuterie, made by Gastro Foods, is the only charcuterie in South Africa cured without added nitrates or nitrites.*
>
> *All Farmer Angus products are also 100% growth-hormone free, routine antibiotic free and the pig and chicken food is glyphosate free. The vineyards on the farm are in their 8th year of being certified organic.*

Since his farm is nearby, I had the pleasure of having lunch with Angus.

He is a great man doing great things for the environment and for his staff (by refusing to force them to get the jab), and I believe we should support farmers like Angus.

As the world rushes towards a cold, unhealthy, technocratic future, I strongly recommend going back to basics by finding a local farmer to support.

Farmers are the foundation of civilisation.

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124 Organizations Demand Home Depot, Lowe's Immediately Pull Cancer-Linked Weedkiller

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> ***Groups Demand Action After Bayer Announced Glyphosate Will Remain in Roundup Until 2023***

by **Friends of the Earth**
August 17, 2021

WASHINGTON, D.C. – 124 consumer, health and environmental groups sent letters today calling on **Lowe's (NYSE: LOW)** and **Home Depot (NASDQ: HD)** to immediately end the sale of Roundup following Bayer's recent decision to remove cancer-causing glyphosate from weedkiller Roundup by 2023 for the U.S. consumer market. Urging that the health of people and pollinators can't wait, the groups contend that unless major home and garden retailers act now, consumers will continue to use and be exposed to glyphosate via Roundup for the next two years.

The main chemical ingredient in Roundup – glyphosate – is the most widely used pesticide in the world. Glyphosate is a probable human carcinogen. Research has linked glyphosate to high rates of kidney disease in farming communities and to shortened pregnancy in a cohort of women in the Midwest. Animal studies and bioassays also link it to endocrine disruption, DNA damage, decreased sperm function, disruption of the gut microbiome, and fatty liver disease.

Friends of the Earth and allies have been campaigning for Home

Depot and Lowe's to end sales of Roundup and other glyphosate-based weedkillers based on science linking the chemical to cancer and other serious health concerns, as well as threats to pollinators and endangered species.

The groups are also pushing Lowe's and Home Depot to not supply Bayer's reformulated Roundup products once they are available in 2023 unless they are truly safe for people and pollinators. A recent analysis showed that half of all herbicides offered by these retail giants contain highly hazardous ingredients, highlighting the need for truly safe alternatives. In a process known as "regrettable substitution," the replacements for high-profile chemicals of concern like glyphosate are often as toxic as the original chemicals.

Bayer's decision is a response to years-long court battles the company inherited after acquiring Roundup manufacturer Monsanto in 2018. In a series of high-profile court cases, glyphosate exposure has been linked to non-Hodgkin's lymphoma in farmers, groundskeepers, and homeowners using the herbicide for lawn care.

However, Bayer's decision only applies to consumer markets – the company will continue selling glyphosate-based formulas for agricultural and professional use.

"Despite Bayer's decision, the battle against glyphosate is far from over – massive amounts of this toxic chemical will continue to be bought and sprayed in our yards, communities and farms. Retailers and regulators must act now to protect people and the planet from this cancer-linked weedkiller," said **Paolo Mutia, food and agriculture campaigner for Friends of the Earth.**

"It is great news that after years of public outcry, Bayer is finally going to stop selling cancer-linked glyphosate products in U.S. home and garden stores. But we need to get

these dangerous products off of shelves now, not in two years," said **Lacey Kohlmoos, U.S. campaign manager for SumOfUs**. "Lowe's and Home Depot need to show that they care about their customers' health by ending all sales of Roundup and other glyphosate products immediately."

According to **Akayla Bracey, science and regulatory manager for Beyond Pesticides, "**People generally aren't aware that the pesticides widely available in garden retailers like Home Depot and Lowe's are a threat to health and the environment, and that there are safer products that are available and used in organic land management."

"Home Depot and Lowe's need to take action for human and environmental health and immediately end the sale of Roundup and all other pesticides and herbicides with toxic chemicals," said **Todd Larsen, executive co-director for Green America**. "When people go to big box stores looking for weedkiller, they don't realize the chemicals they are purchasing are harming them and pollinators. It's up to retailers to sell only products that are safe to use, and as the largest Do It Yourself stores in the U.S., Home Depot and Lowe's need to be leaders in selling only the safest products."

"In light of Bayer's announcement, Home Depot and Lowe's have no reason to wait until 2023 to end the sales of Roundup and other toxic glyphosate-based herbicides," **said Rebecca Spector, west coast director for the Center for Food Safety.** "It's time for these major retailers to demonstrate bold leadership that prioritizes environmental stewardship and human health over short-term profits resulting from continued sales of these harmful products. Our pollinators cannot wait two more years, and as consumers, we deserve better, now."

"We will not accept the continued sale of glyphosate; it wreaks havoc on both environmental and human health," said **Rose Williamson president for Herbicide Free Campus Loyola Marymount University.** "It should no longer be sold on

Lowe's and Home Depot shelves starting today, rather than waiting until 2023."

"This is a win against the toxic chemical market; we the people hold the power and, with this news, we are more motivated than ever to continue working with our campuses to eliminate synthetic herbicide use," said **Christie Jones, a student activist with Herbicide-Free Campus at Emory University.**

Glyphosate is also linked to environmental damage. The EPA warms that glyphosate can injure or kill 93% of U.S. endangered species. It is a primary driver of the decimation of monarch butterfly populations because it destroys the milkweed plants their young depend on. Recent research has also shown that glyphosate can disrupt honeybee gut microbiomes, affect larval development, increase colony vulnerability to pathogen infestation, reduce productivity, and impair honeybee navigation, linking the herbicide to declines in bee populations.

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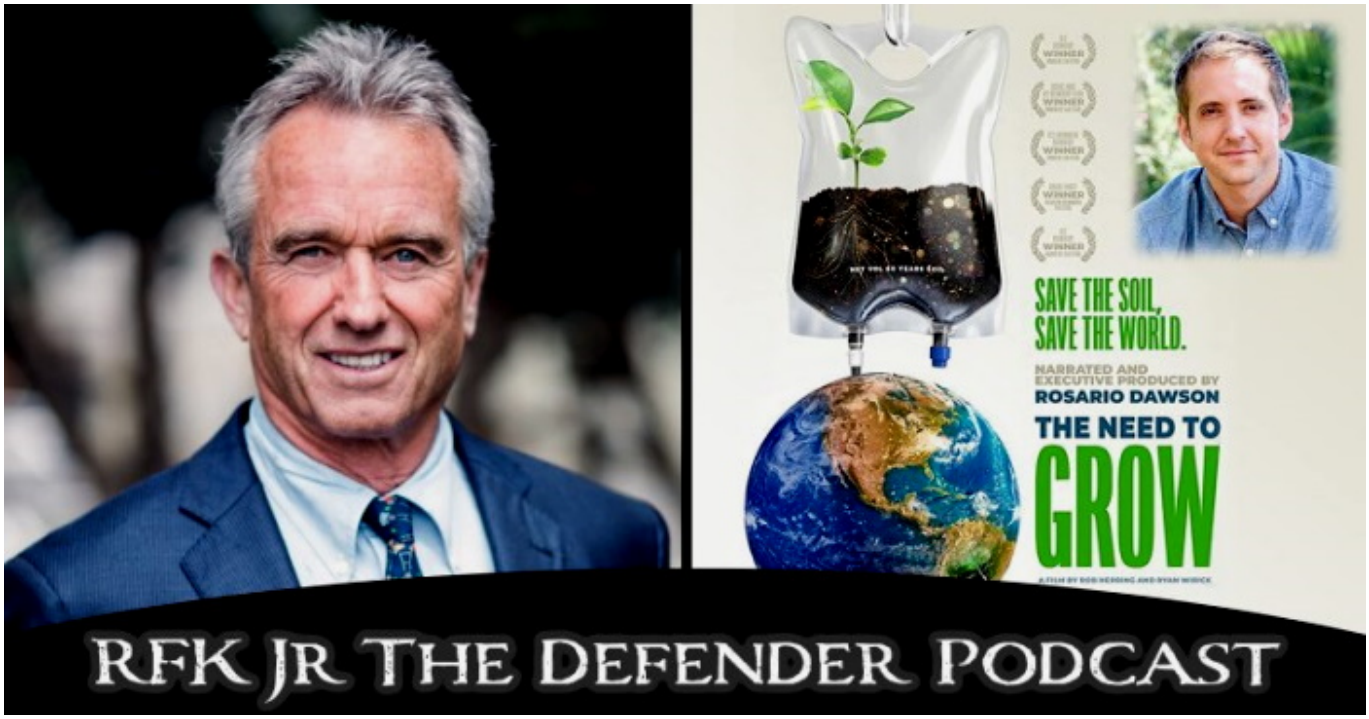
'The Need to Grow' Filmmaker Tells RFK, Jr.: Industrial Ag Is Killing Our Soil –

Regenerative Farming Is the Answer

‘The Need to Grow’ Filmmaker Tells RFK, Jr.: Industrial Ag Is Killing Our Soil — Regenerative Farming Is the Answer

> ***Rob Herring, producer of the film, “The Need to Grow,” told RFK, Jr. on the “RFK Jr. The Defender Podcast,” healthy soil has a “cosmic galactic level of microbial activity happening right under our noses.”***

by **Children’s Health Defense Team**, *The Defender*
August 10, 2021



Award-winning filmmaker Rob Herring told Children’s Health Defense Chairman Robert F. Kennedy, Jr. on the “RFK Jr. The Defender Podcast” that industrial agriculture is killing life in the soil, depleting crops of key nutrients and poisoning

our waterways.

Herring, a certified holistic health coach and co-founder of Integrative Pediatrics, produced "The Need to Grow," a film that highlights the importance of healthy soil, as well as the challenges and opportunities of transitioning to an agriculture system that's good for people, animals and the planet.

Herring discussed the difference between farmable topsoil and dirt.

"Dirt is void of life," said Herring. "Soil is really complex" and has a "cosmic galactic level of microbial activity happening right under our noses."

Herring said one tablespoon of healthy soil may contain up to 10 billion microorganisms – an intricate web of biodiversity and life that's key to producing healthy food, healthy humans and ultimately, a healthy planet.

But when you ignore soil health and mistreat it with toxic agrichemicals and overtilling, said Herring, we lose the ability to grow nutritious food.

Herring said the overuse of pesticides and artificial fertilizers has significantly depleted the nutritional value of plants.

"We're growing something that looks like a broccoli," said Herring, "but it doesn't have the minerals and the nutrient density that, even just a few generations ago, the broccoli would have."

Agrichemicals also make soil less resilient when it comes to weeds, pests and even drought, said Herring. The good news, he said, is that solutions already exist.

By ditching toxic agrichemicals and using a variety of organic and regenerative farming practices such as composting and

purposeful livestock grazing, Herring said we can rebuild soil health, grow nutritious food, protect farmers and promote clean waterways.

"This is why we geek out about soil," Herring said. "This is why it's so exciting, it's really a forefront of how we're going to possibly regenerate human and environmental health."

Herring said:

"There's an illusion right now that we think organic is more expensive, when in reality, that system is much, much cheaper in the long term, not only from the human health [aspect], not having to pay your doctor later for the medical bills, but also just the environment of cleanup that is outsourced."

Listen here:

cover image credit: Pexels / pixabay

'Toxic Legacy' – How

Glyphosate Destroys Your Health

‘Toxic Legacy’ – How Glyphosate Destroys Your Health

by **Dr. Joseph Mercola**
June 27, 2021

Stephanie Seneff, Ph.D., a senior research scientist at MIT, has published a new book, “Toxic Legacy: How the Weedkiller Glyphosate Is Destroying Our Health and the Environment” – without doubt the best book ever written about glyphosate, the active ingredient in Roundup and many other toxic herbicides.

In this book, which has been a labor of love for the past decade, Seneff explains how and why glyphosate poses an existential threat to humanity, and why it’s so important to avoid it if you care about your health and the health of your family.

> *“It’s been a decade of learning everything I could about glyphosate,” Seneff says. “When I first heard about it I basically dropped everything else I was doing because I was so confident that I had found the answer to the autism epidemic. That was the thing I was looking for. Back in 2012, I heard a two-hour lecture by Don Huber, and it changed my focus entirely.*

> *I already understood the symptoms of autism, a very complex disease – lots of gut problems and mineral issues – and it all came together with his lecture. Overnight I just started poring over all the papers I could find.*

> *Shortly after that I found Séralini’s paper,[1] which had not*

yet been retracted at that time. It was later republished, the paper by Séralini, a French toxicologist who had shown that very low doses of glyphosate over the lifespan of a rat could cause a lot of damage.

He pointed out that after three months, everything looked good, so it's a slow kill. This is one thing I emphasize in my book. Glyphosate is subtle, and that's really a huge problem because people don't [make the connection]. We have diabetes, obesity, autism, Alzheimer's. It's a long, long list, all the gut problems.

The microbes are being very much disturbed by the chronic poisoning with glyphosate, and then the gut becomes a central starting point for many diseases, including neurological diseases and arthritis. So, you see that disruption of the gut, and glyphosate can cause exactly the things that we're seeing."

Glyphosate Contamination in Common Products

Before delving into glyphosate, Seneff spent five years focusing on the potential toxicities of vaccines. She still believes vaccines can play a role in the chronic diseases we're seeing, including autism.

However, glyphosate may actually play a more significant role. Seneff believes it contributes to and worsens damage caused by vaccines, in part because it binds very efficiently to aluminum used as an adjuvant in certain vaccines. It likely binds strongly to many other toxic metals as well.

The theory is that, by being wrapped up with glyphosate molecules, the metals can more easily penetrate various barriers in your body. This is because glyphosate causes these barriers, such as your intestinal barrier and your blood-brain-barrier, to become more porous. And, as leaky gut or

leaky brain set in, the toxic metals are shuttled across, along with the glyphosate.

Interestingly, Anthony Samsel, a public health research scientist, and Zen Honeycutt, founder and director of Moms Across America, have independently found glyphosate contamination in live virus vaccines that do not contain aluminum adjuvant.

Seneff suspects glyphosate may be a contaminant in many drugs as well, particularly drugs produced by genetically engineering E. coli or yeast. They've also found glyphosate in tampons, which may then be absorbed through your uterine lining.

Seneff also hypothesizes that, since glyphosate is found in many vegetable-based fats, such as canola and soybean oil, studies comparing the health effects of fats may be compromised since they never consider the effects of glyphosate. Interestingly, while not fat-soluble, glyphosate can still enter fats (and is found in the vegetable oils just mentioned).

Samsel suspects glyphosate acts as a phosphate analog, because it has a phosphonate unit, and fats have phosphates (phospholipids). This is something he's investigating right now, so eventually, we may learn more about that mechanism.

Glyphosate and the Rise in Celiac Disease

In her book, Seneff details the dramatic increase in glyphosate use since its introduction in the mid-'70s. Estimates suggest that one pound of glyphosate is applied in the U.S. every year for every man, woman and child, in America, which is an astounding amount. It's not even enough to buy non-GMO products, as many non-GMO items have been shown to have some of the highest levels of glyphosate.

There's a strong correlation between the rise in celiac

disease over time and the rise in glyphosate usage on wheat … which makes sense, because wheat is the source of celiac disease. ~ Stephanie Seneff, Ph.D.
Oats, wheat, barley and legumes like chickpeas and lentils tend to be very high in glyphosate because these crops are sprayed with glyphosate right before harvest as a desiccant to speed the drying process.

> *"I think that's the reason for the epidemic in celiac disease," Seneff says. "Samsel and I wrote a paper on that. We showed there's a strong correlation between the rise in celiac disease over time and the rise in glyphosate usage on wheat, specifically on wheat. It matches much better to wheat than it does to the other crops, which makes sense, because wheat is the source of celiac disease."*

A case study of an American woman who tried to commit suicide by drinking glyphosate reveal some of the chemical's effects. She developed a paralyzed gut, and this may well be what's happening to many, on a low-grade scale. In essence, people's guts are sort of semi-paralyzed by the glyphosate in the diet, which causes small intestinal bacterial overgrowth (SIBO).

Bacteria starts festering in the upper intestine because the peristalsis is not working properly, so food remnants get stuck. Glyphosate has also been shown to accumulate in the brain, and animal studies show it causes neuro excitotoxicity due to excess glutamate in the brain. This, in turn, "is absolutely connected to autism," Seneff says.

In her book, Seneff also discusses the importance of sulfur for optimal health, how sulfate deficiency is connected to autism, and how glyphosate can cause sulfate deficiency.

How Glyphosate Affects Your Gut and Autoimmunity

Part of what makes glyphosate so toxic has to do with the fact that it's a very efficient metal chelator. It binds metals and minerals really well. For example, glyphosate is a million

times more effective at chelating aluminum than EDTA, a chelating agent used in heavy metal chelation treatment.

This, in turn, disrupts your gut microbes because it makes minerals unavailable to the microbes. Your gut microbes need minerals, as their enzymes depend on them for proper functioning. Glyphosate also disrupts the shikimate pathway, both in plants and microbes, and beneficial microbes are particularly sensitive to glyphosate.

When lactobacillus bacteria are killed off in your gut, your ability to digest gluten and casein (milk protein) is impaired, as this bacterium carries several enzymes your body does not have that specialize in breaking down proline, an amino acid found in gluten and casein. This, in turn, can eventually lead to autoimmune problems. Seneff explains:

> *"We have all these allergies to gluten and casein these days, all these different food sensitivities, and I think it's because the lactobacillus are being killed off. They can't support the digestion of those proteins anymore. Then the protein sticks around, the peptide sequence, and that's what causes an immune reaction.*

> *Then you can get an autoimmune attack through molecular mimicry — the antibody mis-recognizes a human protein because it looks like the piece of gluten that they become sensitive to, so they attack a human protein instead."*

Glyphosate Makes Harmful Fat Even More Hazardous

Interestingly, glyphosate may also contribute to the harm caused by the omega-6 fat linoleic acid (LA). LA is metabolized into arachidonic acid, which is metabolized into an endogenous cannabinoid that eases pain. The enzyme that accomplishes this conversion is cytochrome P450 enzyme, which is disrupted by glyphosate.

Seneff suspects arachidonic acid is getting redirected through enzymes that convert arachidonic acid into extremely immunogenic products instead, such as leukotrienes, which act as signaling molecules that turn on an inflammatory response. A generic term for these signaling molecules is eicocanoids. She explains:

> *"Leukotrienes are rightfully blamed for causing all the chronic pain we're seeing — rheumatoid arthritis, joint and bone pain, and even, probably, problems with the brain, maybe headaches.*
>
> *All the different kinds of pain we're experiencing that are connected to inflammation could be a consequence of cytochrome P450 enzymes blocking the ability to convert arachidonic acid into the endogenous cannaboid. Instead, it gets redirected towards these signaling molecules that cause all this damage."*

On top of that, LA, when oxidized, turns into highly toxic free radicals such as 4HNE, which cause direct oxidative stress damage to cell membranes, mitochondria, stem cells and DNA. In your mitochondria, a feedback loop then occurs that causes the shutdown of your energy metabolism system, resulting in an increase in adipose tissue. Translation: Excessive LA causes accumulation of belly fat.

Glyphosate Is a Biological Toxin

Its effect on the shikimate pathway is a key mechanism by which glyphosate causes biological harm in humans. The human body does not have this pathway — a fact used by Monsanto to argue for glyphosate's safety. But the microbes in your body do have it. Research has shown over half the microbes, on average, in your gut have the shikimate pathway and can therefore be decimated by glyphosate.

These include lactobacillus and bifidobacteria, which use the

shikimate pathway to produce the aromatic amino acids tryptophan, tyrosine and phenylalanine, crucial coding amino acids that go into all the proteins of your body. They're absolutely essential for protein assembly, and your body must rely on your diet and gut microbes to produce adequate amounts of these amino acids, as your body cannot produce them any other way.

When your gut microbes are harmed, it can result in a deficiency of tryptophan, tyrosine and phenylalanine. These amino acids are also precursors to many other important biologically active molecules. For example, tryptophan is a precursor to melatonin and serotonin. Tyrosine is a precursor to thyroid hormone, dopamine and adrenaline.

> *"These are all really, really important hormones that control brain behavior and regulate behavior and mood," Seneff says. "Serotonin deficiency is connected to depression, and we have an epidemic in depression. So, I think there's a direct path there. Also, some of the B vitamins come out of the shikimate pathway, including thiamine (B1), riboflavin (B2) and niacin (B3) …*

> *You need thiamine for augmenting your immune system. If you don't have a lot of thiamine, you're not going to be able to generate a healthy immune response. That's why it's a part of septic protocols. If you're wrecking it with glyphosate exposure that's disrupting the shikimate pathway in your gut microflora, you've got a huge problem."*

Glycine Can Help Counteract Adverse Effects of Glyphosate

One simple remedy that can help lower your glyphosate burden is to take a glycine supplement. As explained by Seneff, the way glyphosate disrupts the shikimate pathway is by affecting an enzyme called EPSP synthase. That enzyme bonds to a

molecule called phosphoenolpyruvate (PEP). The "phospho" in that name stands for phosphate.

At the place where EPSB synthase binds to PEP, there's a glycine molecule. It's a highly-conserved glycine in the enzyme. If that glycine is swapped out for alanine, a very similar amino acid, the EPSB synthase enzyme becomes completely insensitive to glyphosate.

> *"So, it's black and white — either there's a glycine there, in which case it's incredibly susceptible to glyphosate, or there's alanine, in which case it's completely insensitive," Seneff says.*

Incidentally, this is how agricultural scientists create glyphosate-resistant GMO crops. They turn the glycine molecule into alanine, thereby rendering the plant impervious to glyphosate.

When glyphosate enters your system, it can take the place of the glycine molecule. While similar, (the "gly" in glyphosate stands for glycine) it's not identical and does not work the same way as glycine. Hence, this replacement causes all sorts of trouble.

By taking a glycine supplement, you can counteract this chain of events by making sure there's enough glycine present to fill up those glycine slots. As noted by Seneff, "If there's lots of glycine, you're going to be much less likely to pick up glyphosate." She continues:

> *"I had thought about glyphosate being glycine, and knowing that it's a glycine analog and that it was affecting places where glycine binds. Glycine acts as a neural transmitter. Glyphosate messes that up. I thought, 'I wonder if it can get into the protein in place of glycine?'*
>
> *My book actually centers on this idea that glyphosate*

substitutes for glycine in certain proteins. There's a specific algorithm for where it would happen, and you can show that those proteins are suppressed by glyphosate experimentally."

Importantly, glyphosate suppresses glucose-6-phosphate dehydrogenase (G6PD), a very important enzyme in red blood cells that maintains NADPH in its reduced form. If you have reduced levels of NADPH, you're at increased risk for chronic disease, as your ability to recharge antioxidants is impaired. This is yet another mechanism by which glyphosate contributes to any number of disease states.

Glyphosate's Impact on Collagen

Yet another protein that has a high glycine content is collagen, the primary protein for your connective tissue. It constitutes about one-quarter of your body's proteins. Because of the presence of glycine, glyphosate has the ability to impair collagen as well.

"I feel confident that glyphosate is messing up collagen," Seneff says. "Collagen has a beautiful triple helix structure, which gives it really special properties of tensile strength and flexibility to hold water. Collagen has long, long sequences called GXY, GXY, GXY, where every third amino acid is a glycine. Those glycines hook together to form that triple helix.

There are people who have mutations in those glycines that cause joint and bone diseases, and I think glyphosate is causing that. Ehlers-Danlos syndrome is associated with glycine mutations in collagen, and there's an increase in the prevalence of that syndrome recently.

Of course, you have many more people getting hip replacement surgery, and people have back issues, back pain and shoulder

surgery, knee and foot problems. All these different problems with the joints, I suspect, are being caused by misfolded collagen because of glyphosate messing it up."

Glyphosate's Impact on Your Vascular System

Another mechanism of action involves the suppression of nitric oxide (NO), primarily through the suppression of endothelial nitric oxide (eNOS), which is one of three ways your body makes NO. eNOS is a close relative to cytochrome 450 enzymes which, as mentioned, are decimated by glyphosate.

"The NO works together with sulfur dioxide to control the viscosity of your blood," Seneff explains. "NO turns into nitrate … And sulfur dioxide turns into sulfate … Nitrate is a chaotrope, and sulfate is a kosmotrope. Kosmotropes are very interesting molecules that control the viscosity of blood. It's all about water structuring, stuff that Gerald Pollack talks about.

Kosmotropes make the water structure more like gel and the chaotropes make it more like fluid, liquid. Those two work against each other to maintain the correct viscosity of the blood while other things are going on. If you put a bunch of lipid particles into the blood, it's going to get more viscous, so you've got to make it less-viscous by adding NO.

So, there's a back and forth between NO and sulfur dioxide that's regulated by eNOS. This is a theory that I have, and it makes a lot of sense. I have continued to gather evidence that supports it.

If glyphosate messes up eNOS, then it messes up the blood's ability to maintain its proper viscosity, which means your blood could be too fluid. You could end up with hemorrhaging. It could be too thick, it can't circulate, so you end up with

blood clots."

More Information

One piece of good news is that Mexico is banning glyphosate and will phase it out entirely by 2024. There are fears Mexico may also start banning U.S. imports found to be contaminated with glyphosate, which would actually work in everyone's favor by shining a bright light on the matter.

While the ultimate answer is to ban the use of glyphosate worldwide, in the meantime, a key strategy to protect your own health is to buy certified organic or biodynamic food. Glyphosate is not permitted in organic agriculture, and even if contamination occurs, the levels are going to be far lower than that of conventionally-grown foods.

Seneff also recommends eating a high-sulfur diet, as sulfur is crucial for the health of your metabolism and immune system. "Sulfur deficiency, I think, is a driver behind some of our health problems," she says.

Also consider taking a glycine supplement to counteract and push out any glyphosate you might be exposed to. "Glycine is not very expensive and it is very safe, so it's an easy thing to take as a supplement, which I think could definitely help," Seneff says.

Other health-promoting habits include eating plenty of fermented foods and getting optimal amounts of vitamin D and K2. As noted by Seneff, your vitamin D conversion is also adversely affected by glyphosate.

As is typically the case when talking to Seneff, as she is phenomenally well-informed, we cover far more details in this interview than I've summarized here — including environmental effects and countermeasures to speed the cleanup of soil and water — so I encourage you to listen to the interview in its entirety.

Of course, to learn more about glyphosate, be sure to pick up a copy of "Toxic Legacy." It's by far the best book to date on this pernicious toxin that is robbing people everywhere of their health and quality of life.

Connect with Dr. Joseph Mercola

cover image credit: hpgruesen / pixabay

Maine Bans Aerial Spraying of Harmful Herbicides in State's Forests

Maine Bans Aerial Spraying of Harmful Herbicides in State's Forests

by **Sustainable Pulse**
June 25, 2021

The Maine Legislature last week approved a proposal to ban aerial spraying of some herbicides, including glyphosate, in the state's forests, Associated Press reported.

The proposal, introduced by Democratic Senate President Troy Jackson, bans the the aerial spraying of glyphosate and other synthetic herbicides as a forest management strategy.

Jackson said he was concerned the herbicides seep into rivers and streams, jeopardize ecosystems and pose threats to human

health. He said the ban was a step to "protect the health and well-being of the people working and living in northern Maine, and safeguard our natural resources for future generations."

Across the pond in Europe, the European Federation of Food, Agriculture and Tourism Trade Unions (EFFAT) recently called for an immediate ban on glyphosate-based herbicides and other harmful pesticides.

> *"The newly adopted position on the issue responds to EFFAT's commitment to a more sustainable agriculture which underpins, inter alia, free trade agreements with binding requirement to respect highest environmental and social standards, investments in workers' skills, social protection and research and development towards sustainable pest management.*
>
> *"As sufficient evidence exists on the risks related to the use of glyphosate for workers, human health and biodiversity, EFFAT calls for the immediate ban of glyphosate as an active substance in herbicide products."*

Vandana Shiva: A New Wave of Colonization, Carbon Slavery

Vandana Shiva: A New Wave of Colonization, Carbon Slavery

by **Dr. Joseph Mercola**, *mercola.com*
June 25, 2021

Story At-a-Glance

- Big Tech is driving a new wave of colonization in the name of sustainability and "net zero" carbon emissions
- Tech billionaire Bill Gates, now the largest owner of farmland in the U.S., is at the root of the problem, pushing technology as the only mechanism to save the world, and in so doing denying real solutions
- Shiva calls Gates' book, "How to Avoid a Climate Disaster," which pushes for the elimination of age-old farming traditions and widespread adoption of fake meat, "rubbish"
- According to Shiva, in order to force the world to accept this new food and agricultural system, new conditionalities are being created through net zero "nature-based" solutions, which will only further destroy indigenous people and small farmers
- Net zero does not mean zero emissions, Shiva says; it means the rich polluters will continue to pollute and also grab the land and resources of those who have not polluted

Vandana Shiva is a brilliant mind calling for inhabitants of the Earth to unite against forces that are threatening to destroy the planet, in part via a new wave of colonization in the name of sustainability.

Tech billionaire Bill Gates, now the largest owner of farmland in the U.S.,[1] is at the root of the problem, pushing technology as the only mechanism to save the world, and in so doing denying real solutions. This path is not accidental but carefully orchestrated to amass wealth, power and control, while making all but the elite subservient.

In my interview with Vandana Shiva, Ph.D., she spoke about Gates Ag One,[2] which is headquartered in St. Louis, Missouri, where Monsanto is also headquartered.

"Gates Ag One is one [type of] agriculture for the whole world, organized top down. He's written about it. We have a whole section on it in our new report,[3] 'Gates to a Global Empire,'" she said. This includes digital farming, in which farmers are surveilled and mined for their agricultural data, which is then repackaged and sold back to them.

Bill Gates' New Book Is 'Rubbish'

In the above Under the Skin podcast with Russel Brand, Shiva takes aim at Gates' book "How to Avoid a Climate Disaster: The Solutions We Have and the Breakthroughs We Need," which was released in February 2021[4] — calling it "rubbish:"[5]

> *"Just by chance I was reading the rubbish in Bill Gates' new book. I normally don't read rubbish but when they want to be rulers through rubbish, I read it. And it's lovely because he says the greenhouse gases from factory farms are not because of factory farms and putting animals in prisons … it's because the cows were the problem. They had four stomachs and the four stomachs make the methane."*

The reason cows in concentrated animal feeding operations (CAFOs) emit methane that smells is because they're fed an unnatural diet of grains and placed in crowded quarters. It's not a natural phenomenon. It's a man-made one. "You walk behind a good cow on a grazing pasture, she's not stinking," Shiva said.[6]

The strong recommendation to replace beef with fake meat is also made in Gates' book[7] — another example of replacing a whole, natural food with something engineered, heavily processed and fake. It all stems from an overreaching theme of arrogance and the desire for recolonization and a global empire.

The idea is to imply, or create the environment in which,

survival isn't possible without technology. "It is a denial of the richness of agroecological knowledges and practices that are resurging around the world," according to one of Navdanya's reports.[8]

Shiva founded Navdanya, a nonprofit organization promoting biodiversity, organic farming and seed saving, in 1994. She has also travelled the globe to warn other countries, including Africa, about plans to displace rural farmers so investors can turn the land into industrial farms to export the commodities.

Gates' book talks about eliminating age-old farming traditions, which Shiva believes must be protected. Speaking with Brand, Shiva said:[9]

> *"He [Gates] has put the Indian plow that has existed for 10,000 years and says this primitive technology must go. I call this, as the future technology, a partnership between our bodies, the body of the Earth, and the body of the animals — realizing that we are not masters but we are there to serve through what Gandhi called bread labor, the labor of our body in the service of the Earth, in the service of community.*
>
> *So we are for sure at an epic moment where everything wrong is being given a new life just at the time when the world was waking up … I think this is happening … because of arrogance … we've destroyed every international law, we've destroyed all democracy, we have locked people into fear … you know, the British empire had that arrogance."*

Breaking the Sacred Relationship With Food

Industrialization started the process of severing humans' age-old connections to their food and the land on which it's grown. "Now, with digitalization," Shiva said, "they would

like to end it forever."[10] Tech giants, in an effort to drive home digital agriculture, are working to reduce life to software[11] while advancing digital surveillance systems.

So far, Shiva's organization has managed to prevent Gates from introducing a seed surveillance startup, where farmers would not be allowed to grow seeds unless approved by Gates' surveillance system. The data mining, Shiva says, is needed because they don't actually know agriculture.

This is why Gates finances the policing of farmers. He needs to mine their data to learn how farming is actually done. In countering the tech giants' attempts to remove humans' sacred relationship to food, Shiva states we can fight back by remembering and focusing on a few essential principles:[12]

- Food is the currency of life
- The highest duty is to grow and give food in abundance
- The worst sin is to let someone go hungry in your neighborhood, not grow food and, worse, sell bad food

"We've got to bring to the center of our everyday life the rituals that make life sacred," Shiva said. "Our breath … breath is what connects us to the world … water connects us to the world. Food connects us to the world."[13]

'Net Zero' Nonsense

Gates has been vocal that achieving "net zero" emissions will be the "most amazing thing humanity has ever done."[14] By 2030, he's pushing for drastic, fundamental changes, including widespread consumption of fake meat, adoption of next generation nuclear energy and growing a fugus as a new type of nutritional protein.[15]

The deadline Gates has given to reach net zero emissions is 2050,[16] likely because he wants to realize his global vision

during his lifetime. But according to Shiva, in order to force the world to accept this new food and agricultural system, new conditionalities are being created through net zero "nature-based" solutions. Navdanya's report, "Earth Democracy: Connecting Rights of Mother Earth to Human Rights and Well-Being of All," explains:[17]

> *"If 'feeding the world' through chemicals and dwarf varieties bred for chemicals was the false narrative created to impose the Green Revolution, the new false narrative is 'sustainability' and 'saving the planet.' In the new 'net zero' world, farmers will not be respected and rewarded as custodians of the land and caregivers, as Annadatas, the providers of our food and health.*
>
> *They will not be paid a fair and just price for growing healthy food through ecological processes, which protect and regenerate the farming systems as a whole.*
>
> *They will be paid for linear extraction of fragments of the ecological functions of the system, which can be tied to the new 'net zero' false climate solution based on a fake calculus, fake science allowing continued emissions while taking control over the land of indigenous people and small farmers.*
>
> *'Net Zero' is a new strategy to get rid of small farmers in first through 'digital farming' and 'farming without farmers' and then through the burden of fake carbon accounting.*
>
> *Carbon offsets and the new accounting trick of 'net zero' does not mean zero emissions. It means the rich polluters will continue to pollute and also grab the land and resources of those who have not polluted – indigenous people and small farmers – for carbon offsets."*

Gates already alluded to this double-standard in responding to those who criticized him for the hypocrisy of being a serious polluter himself, with a 66,000 square-foot mansion, a private jet, 242,000 acres of farmland and investments in fossil fuel-dependent industries such as airlines, heavy machinery and cars.[18]

This pollution is acceptable, Gates said, because, "I am offsetting my carbon emissions by buying clean aviation fuel, and funding carbon capture and funding low-cost housing projects to use electricity instead of natural gas."[19]

Carbon Colonization and Carbon Slavery

Carbon colonization and carbon slavery are two terms being used to explain the reality behind carbon trade, which is being regarded by Big Tech as the next big opportunity, Shiva says.[20] Carbon trade refers to the buying and selling of credits that allow a company to emit a certain amount of carbon dioxide,[21] but by buying up credits from nonpolluters, industry can continue to pollute.

Technocracy is also a resource-based economic system, which is why the World Economic Forum talks about the creation of "sustainable digital finance,"[22] a carbon-based economy and carbon credit trading.[23] As explained on its website:[24]

> *"Digital finance refers to the integration of big data, artificial intelligence (AI), mobile platforms, blockchain and the Internet of things (IoT) in the provision of financial services. Sustainable finance refers to financial services integrating environmental, social and governance (ESG) criteria into the business or investment decisions.*
>
> *When combined, sustainable digital finance can take advantage of emerging technologies to analyze data, power investment*

decisions and grow jobs in sectors supporting a transition to a low-carbon economy."

As Navdanya's report explains, however, this will ultimately further remove the rights of small farmers, who will be forced into a new form of data slavery:[25]

"A global 'seal' of approval based on fake science, fake economics of maximizing profits through extraction will create new data slavery for farmers. Instead of using their own heads and cocreating with the Earth, they will be forced to buy 'Big Data.' Instead of obeying the laws of Mother Earth, they will be forced to obey algorithms created by Big Tech and Big Ag."

Focusing solely on carbon reductionism also misses the point that "forests, lands, ecosystems are so much more than the carbon stored in them," and putting conditionalities on small farmers will only make environmental injustices worse. The report adds:[26]

"Conditionalities under any condition violate democratic principles and human rights. Farmers are guided by Earth care. The culture of Earth care needs to be respected and rewarded because it is centered on rights of the Earth and rights of all her children … Conditionalities put on the nonpolluters by the polluters who want to continue to pollute is unjust and ecologically, morally and ethically bankrupt."

'The Universe Is Divine'

According to the ancient Vedas, the universe is divine, and everything therein — even the smallest grass — is an expression of the divine. "When I go to villages," Shiva told Brand, "women will do sacred ceremonies with indigenous seed. They will never use a hybrid seed for a sacred ceremony … It's

quite amazing. No one told them, but they have that understanding of integrity and what the sacred means. It means to treat without violation."[27]

The universe exists for the well-being of all, but her gifts must be enjoyed without greed, Shiva explained. Taking more than your share is theft, and will only backfire. The solution to true sustainability doesn't lie with new technology, but in relying on the natural "technology" that is the universe:[28]

> *"It is by learning from the Earth that we can regenerate the Earth. We have to become students of Mother Earth, not try and dominate her. When we practice agriculture in unison with the Earth's ecological processes aligned with the ecological laws of nature and the Earth, we evolve an agriculture of care for the land, for the soil. We participate in the process of regenerating the seed and biodiversity, soil and water."*

Connect with Joseph Mercola, MD

Connect with Vandana Shiva, PhD

Toxic Corporations Are Destroying the Planet's Soil

Toxic Corporations Are Destroying the Planet's Soil

by **Colin Todhunter**, *OffGuardian*
June 23, 2021

A newly published analysis in the journal Frontiers in Environmental Science argues that a toxic soup of insecticides, herbicides and fungicides is causing havoc beneath fields covered in corn, soybeans, wheat and other monoculture crops. The research is the most comprehensive review ever conducted on how pesticides affect soil health.

The study is discussed by two of the report's authors, Nathan Donley and Tari Gunstone, in a recent article appearing on the Scientific American website.

The authors state that the findings should bring about immediate changes in how regulatory agencies like the Environmental Protection Agency (EPA) assess the risks posed by the nearly 850 pesticide ingredients approved for use in the USA.

Conducted by the Center for Biological Diversity, Friends of the Earth and the University of Maryland, the research looked at almost 400 published studies that together had carried out more than 2800 experiments on how pesticides affect soil organisms. The review encompassed 275 unique species or types of soil organisms and 284 different pesticides or pesticide mixtures.

Pesticides were found to harm organisms that are critical to maintaining healthy soils in over 70 per cent of cases. But Donley and Gunstone say this type of harm is not considered in the EPA's safety reviews, which ignore pesticide harm to earthworms, springtails, beetles and thousands of other subterranean species.

The EPA uses a single test species to estimate risk to all soil organisms, the European honeybee, which spends its entire life above ground in artificial boxes. But 50-100 per cent of all pesticides end up in soil.

The researchers conclude that the ongoing escalation of pesticide-intensive agriculture and pollution are major driving factors in the decline of soil organisms. By carrying out wholly inadequate reviews, the regulatory system serves to protect the pesticide industry.

The study comes in the wake of other recent findings that indicate high levels of the weedkiller chemical glyphosate and its toxic breakdown product AMPA have been found in topsoil samples from no-till fields in Brazil.

Writing on the GMWatch website, Claire Robinson and Jonathan Matthews note that, despite this, the agrochemical companies seeking the renewal of the authorisation of glyphosate by the European Union in 2022 are saying that one of the greatest benefits of glyphosate is its ability to foster healthier soils by reducing the need for tillage (or ploughing).

This in itself is misleading because farmers are resorting to ploughing given increasing weed resistance to glyphosate and organic agriculture also incorporates no till methods. At the same time, proponents of glyphosate conveniently ignore or deny its toxicity to soils, water, humans and wildlife.

With that in mind, it is noteworthy that GMWatch also refers to another recent study which says that glyphosate is responsible for a five per cent increase in infant mortality in Brazil.

The new study, 'Pesticides in a case study on no-tillage farming systems and surrounding forest patches in Brazil' in the journal Scientific Reports, leads the researchers to conclude that glyphosate-contaminated soil can adversely impact food quality and human health and ecological processes for ecosystem services maintenance. They argue that glyphosate and AMPA presence in soil may promote toxicity to key species for biodiversity conservation, which are fundamental for maintaining functioning ecological systems.

These studies reiterate the need to shift away from increasingly discredited ‘green revolution’ ideology and practices. This chemical-intensive model has helped the drive towards greater monocropping and has resulted in less diverse diets and less nutritious foods. Its long-term impact has led to soil degradation and mineral imbalances, which in turn have adversely affected human health.

If we turn to India, for instance, that country is losing 5334 million tonnes of soil every year due to soil erosion and degradation, much of which is attributed to the indiscreet and excessive use of synthetic agrochemicals. The Indian Council of Agricultural Research reports that soil is becoming deficient in nutrients and fertility.

India is not unique in this respect. Maria-Helena Semedo of the Food and Agriculture Organization stated back in 2014 that if current rates of degradation continue all of the world’s topsoil could be gone within 60 years. She noted that about a third of the world’s soil had already been degraded. There is general agreement that chemical-heavy farming techniques are a major cause.

It can take 500 years to generate an inch of soil yet just a few generations to destroy. When you drench soil with proprietary synthetic agrochemicals as part of a model of chemical-dependent farming, you harm essential micro-organisms and end up feeding soil a limited doughnut diet of toxic inputs.

Armed with their multi-billion-dollar money-spinning synthetic biocides, this is what the agrochemical companies have been doing for decades. In their arrogance, these companies claim to have knowledge that they do not possess and then attempt to get the public and co-opted agencies and politicians to bow before the altar of corporate ‘science’ and its bought-and-paid-for scientific priesthood.

The damaging impacts of their products on health and the environment have been widely reported for decades, starting with Rachel Carson's ground-breaking 1962 book Silent Spring.

These latest studies underscore the need to shift towards organic farming and agroecology and invest in indigenous models of agriculture – as has been consistently advocated by various high-level international agencies, not least the United Nations, and numerous official reports.

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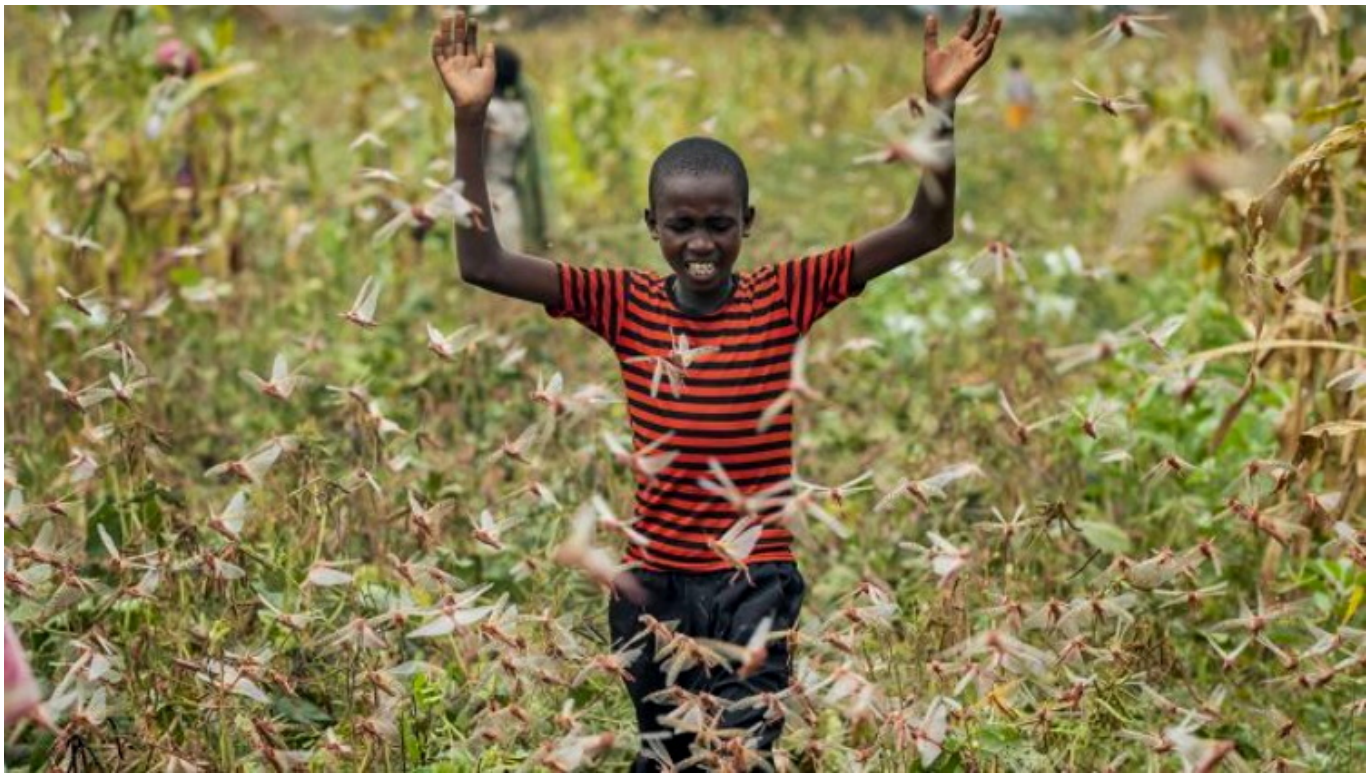
FAO Slammed for Use of Highly Toxic Pesticides to Control Desert Locusts in Africa

FAO Slammed for Use of Highly Toxic Pesticides to Control Desert Locusts in Africa

by **Sustainable Pulse**
June 15, 2021

As the Food and Agriculture Organization (FAO) Conference convened its 42nd Session on Monday, Pesticide Action Network Asia Pacific (PANAP) called on the FAO to review its desert locust program and stop the use of chlorpyrifos, a pesticide linked to brain damage and other neurodevelopmental disorders in children.



An overview of the FAO desert locust response shows the use of several Highly Hazardous Pesticides (HHPs), including chlorpyrifos. According to data available on the FAO's website, more than half a million liters of chlorpyrifos was purchased and delivered by the FAO for desert locust control in Ethiopia (490,000 liters), Uganda (47,000 liters), Yemen (5,000 liters) and Sudan (4,800 liters).

Governments, meanwhile, separately purchased and used hundreds of thousands of liters of chlorpyrifos for desert locust response. These were the governments of Eritrea (41,250 liters), Ethiopia (145,000 liters), Kenya (38,666 liters), Sudan (80,000), Uganda (1,000 liters), and Yemen (26,740).

Overall, both the FAO and governments have used around two million liters of pesticides in desert locust affected countries since January 2020, almost half of which (879,456 liters) is chlorpyrifos.

Chlorpyrifos, an organophosphate pesticide, is a potent neurotoxin at low levels of exposure, causing delayed cognitive and motor development, reduced IQ, and attention

deficit/hyperactivity disorder (ADHD). It is associated with several cancers and causes birth defects. It is also extremely toxic to fish, birds, bees and other beneficial insects.

In addition, on April 7th this year, the Council of the European Union decided to submit a proposal to the secretariat of the Stockholm Convention on Persistent Organic Pollutants (POPs) for the listing of chlorpyrifos under Annex A of the Convention, for global phase-out of its production and use. POPs are chemicals that travel long distances to cold regions of the world, particularly the Arctic and Antarctic, where they persist in the environment, bioaccumulate in the food chain and, through their toxicity, threaten both wildlife and humans. "Peristent Organic Pollutants are particularly prone to evaporating from warm regions of the world, so it is highly likely that some of the chlorpyrifos sprayed in Africa will find its way to the Inuit children living in the Arctic," said Dr. Meriel Watts, PANAP director of science and policy.

As part of its campaign to Protect Our Children from Toxic Pesticides, PANAP is calling for a global ban on chlorpyrifos. Chlorpyrifos is currently banned in 35 countries, according to PAN's latest consolidated list of banned pesticides.

Other HHPs used in the FAO's desert locust response program are malathion, deltamethrin, and fenitrothion. Clorpyrifos, malathion (banned in 32 countries) and deltamethrin are also among PANAP's Terrible 20 pesticides that are especially toxic to children.

The FAO's Practical guidelines on pesticide risk reduction for locust control recommends a minimum buffer distance for "ecologically sensitive areas" (1,500 meters or about one mile when aerially sprayed, and 100 meters or about 330 feet when sprayed on foot). It instructs locust control staff to wear appropriate personal protective equipment, and to tell local populations to "follow precautionary measures" before control operations.

However, environmental groups have reported that communities in Kenya were not given timely warning before spraying. Pesticide drift from aerial spraying can also reach several miles and cause extensive poisoning of village inhabitants and the surrounding ecosystem.

The FAO's Pesticide Referee Group recommends organophosphate pesticides as a "last resort" method in locust control. But the FAO insists that the current emergency status of the desert locust crisis warrants the use of these pesticides as "the most appropriate tool."

"The FAO's path of choosing to use Highly Hazardous Pesticides, including potential POPs, for desert locust control when more agroecological alternatives are available is alarming. It may have disastrous outcomes for succeeding generations. It should be noted that the use of these toxic pesticides occurs at a time when the UN agency has forged a controversial partnership with CropLife International, the industry association of the world's biggest pesticide manufacturers," Watts added.

Hundreds of civil society organisations and scientists around the world are calling on the FAO to stop its deepening collaboration with CropLife, raising concerns that it ties the FAO with manufacturers of harmful pesticides and unsustainable technologies. PANAP is co-coordinating the global campaign to stop this #ToxicAlliance.

Sri Lanka's Shift Towards Organic Farming With Ban of Agrochemicals

Sri Lanka's Shift Towards Organic Farming With Ban of Agrochemicals

by **Navdanya International**
June 16, 2021

On April 27, 2021, the Sri Lankan government decided to ban importing chemical fertilizers, pesticides and herbicides and to replace them with organic inputs and methods. This decision was supported by many, including the Global Alliance for Organic Districts, who petitioned for the President's collaboration in order to include Sri Lanka to an international network of local organic districts. Sri Lanka's shift towards organic farming was also heavily discussed by both local and foreign researchers and activists. On the 7th and 9th of June, Dr. Vandana Shiva, President of Navdanya International, took part in two online workshops on the Sri Lankan government's project to go towards organic agriculture and ban agrochemicals.

The first webinar– "*Regenerative Organic Farming for Economy of Permanence and Prosperity for All*", was organized by the National Institute of Plantation Management (NIPM), a Sri Lankan government institute conducting research, consultancy and training on plantation management. The webinar was on the subject of regenerative organic farming for the economy of permanence and prosperity for all. Dr. Shiva noted that organic farming is not a new method, but that it was a part of the traditional farming techniques in certain countries

including Sri Lanka. According to her, Sri Lanka's shift to become a 100% organic country means turning to an economy of permanence and prosperity for all beings, one that does not destabilise the climate and instead protects all species.

The second international webinar– "*The Commitment of the Sri Lankan Government to Go Organic*", organized by IFOAM Asia, also allowed speakers to discuss the commitment of the Sri Lankan government in making a shift towards organic agriculture. Apart from Dr. Vandana Shiva, other speakers included Andre Leu, director of Regeneration International, Dr. Hans Herren, president of the Millennium Institute, and Dr. Ranil Senanayake, founder of the International Analog Forestry Network. They all endorsed Sri Lanka's decision, albeit the remark that this huge step forward needs to be implemented according to a plan which ensures a smooth transition for farmers and the local economy. Dr. Shiva said: "The reason I am glad about the approach of the Sri Lankan government is because it connects three things, namely stopping dependency on imports, non-sustainability and the ruination of the ecosystems and of health. The minute we connect sustainability and health, organic becomes the only way we can move forward."

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Swiss Citizens Are Called to

Vote on June 13th for the Outlawing of Synthetic Pesticides

Swiss Citizens Are Called to Vote on June 13th for the Outlawing of Synthetic Pesticides

Pesticides: The Swiss Popular Vote Reminds Us That Citizens Have the Ultimate Say

by **Vandana Shiva**, *Navdanya International*
June 8, 2021

On June 13, 2021, Swiss citizens are called to vote for the outlawing of synthetic pesticides. A citizens' initiative, turned referendum, supported and endorsed by Navdanya International on the path towards a true agrofood systems transition. In case the 'Yes' vote should win, the ban would extend from agriculture, to private use, and to the import and marketing of foodstuffs containing synthetic chemicals. Voters will also have to decide on the proposal to remove public subsidies for farmers who are not willing to convert to ecological production practices.

The initiative holds significant symbolic value as Switzerland is home to one of the most powerful agribusiness corporations in the world, Syngenta. Recently acquired by ChemChina, Syngenta was recently at the center of the Paraquat Papers scandal, named after the herbicide produced by the company and considered one of the most toxic and dangerous in the world.

The Swiss initiative is intended to inspire similar actions in

other countries.

The president of Navdanya International, Vandana Shiva, commented: “We are members of one Earth family. Poisons and pesticides kill insects and biodiversity, they are destroying the infrastructure of life. Poisons are causing a health emergency, as chronic diseases such as cancer, autism, infertility are connected to toxins in food and environmental pollution. Through knowledge manipulation and propaganda, the Poison Cartel also undermines independent science and threatens democracy by trying to silence citizens’ efforts towards pesticide-free communities. The health of the planet, her biodiversity, our health makes poison-free food and farming a survival imperative. As our work in Navdanya over 3 decades has shown, we can grow more and better food through biodiversity-intensive, chemical-free organic farming. I congratulate and support the Swiss Referendum as a significant step towards Earth Democracy to defend the rights of the biodiversity of species, including all human beings. Poison free food and farming is our birthright.”

Navdanya International

> *Good news: Vandana Shiva supports our initiative! «We are members of One Earth Family. Poisons and Pesticides kill insects and biodiversity, they are destroying the infrastructure of life. Poisons are causing a health emergency. (…) (1/6) pic.twitter.com/Pg0G7ovxDH*
>
> *— #PestizidinitiativeJA am 13. Juni (@LebenstattGift) June 4, 2021*

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cover image credit: acandraja / pixabay

James Corbett's Solutions Watch: Ice Age Farming with Christian Westbrook

James Corbett's Solutions Watch: Ice Age Farming with Christian Westbrook

Ice Age Farming – #SolutionsWatch

by **James Corbett**, *The Corbett Report*
June 8, 2021

Today James talks to Christian Westbrook (aka the Ice Age Farmer) about the problems facing the global food supply—from the coming global solar minimum to the globalist plan to "reset the table" and transform global food systems. More importantly, we discuss what can be done about these problems.

Watch on Archive / BitChute / Minds / Odysee / ~~YouTube~~ or Download the mp4

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Ice Age Farmer

JBS Shutdown: Biggest Attack on Food in History – Shortages

Expected

Episode 391 – Solutions: Physical Media

Reset the Table: Meeting the Moment to Transform the U.S. Food System

The Man Behind the Curtain: The Gates Foundation's Influence on the UN Food Systems Summit

Farm to Fork Strategy (EU)

China's "Clear Your Plate" campaign gaining steam online

Oregon Bill to BAN Livestock – Stunning War on Farming/Ranching

The Western Drought Is Bad. Here's What You Should Know About It.

The GREATER Food Transformation – Christian Westbrook at The GREATER Reset Activation – Jan 2021

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Connect with James Corbett

Texas Wine Grape Growers Sue Bayer-Monsanto Over Dicamba Drift Damage

Texas Wine Grape Growers Sue Bayer-Monsanto Over Dicamba Drift Damage

by **Dan Nosowitz**, *Modern Farmer*
June 4, 2021

The volatile nature of the pesticide dicamba has meant that it can wind up miles away from where it was sprayed.

Dicamba, and dicamba-resistant seeds, were meant to be the next huge product for Monsanto, which was bought by agrochemical giant Bayer back in 2018. But "dicamba drift," the name for the phenomenon in which dicamba particles float through the air onto plants that have no protection against it, has affected farmers and forests across the country. Most often, we've seen dicamba drift pegged as a damaging agent on unprotected soybean fields, but soy is far from the only victim. A new lawsuit claims that dicamba drift leveled extensive damage on vineyards—in Texas.

When we think of American wine production we tend to think of California first, then maybe Washington state, Oregon and the Finger Lakes region of New York. But grapes are grown just about everywhere and many wine grape varieties are well suited for non-coastal environments as well. In the High Plains region of Texas, just south of the Texas Panhandle, wine grape (and wine) production has been a recent local success story; Texas wines have even won awards held elsewhere.

In the larger wine-grape-growing regions of the United States,

like in Northern California, dicamba drift has not been a substantial problem. Dicamba can drift for about three miles from where it was applied, which means that any affected crops need to be within that range to be hit. Napa and Sonoma counties in California, just for example, don't have substantial dicamba-treated crops that close to the vineyards; there's much more money to be made in growing grapes in those counties than growing cotton or soy.

But in Texas, cotton is a major crop and can be very close to the vineyards. Those vineyards' owners, according to a press release from the law firm that filed the case, "saw their highly productive vineyards wither and, in some cases, die as a result of the dicamba-resistant seed system's use on over two million surrounding acres of cotton." That release says that 57 Texas wine grape growers have filed suit against Bayer-Monsanto and BASF (which also sells dicamba products) for "hundreds of millions of dollars."

The suit alleges that some grape growers saw a truly insane 90 percent reduction in their yield owing to dicamba drift. And grapevines, unlike some other crops, cannot simply be replanted the next year for a similar yield; they require decades to mature and produce the right quality of fruit for some wines.

Grapevines have previously been known to be affected by dicamba drift. Grapes grown in Ohio and Pennsylvania, among other spots, have been known to suffer damage from dicamba. And even in Texas, dicamba drift damage has been known for a few years. Lawsuits have already cost Bayer-Monsanto hundreds of millions of dollars, and Corteva, which had previously marketed dicamba systems, recently exited the market entirely.

cover image credit: JillWellington / pixabay

EU Trade Unions Call for Immediate Ban on Glyphosate Herbicides to Protect Workers

EU Trade Unions Call for Immediate Ban on Glyphosate Herbicides to Protect Workers

> ***The European Federation of Food, Agriculture and Tourism Trade Unions (EFFAT) has called for an immediate ban on glyphosate-based herbicides and other harmful pesticides.***

by **Sustainable Pulse**
June 4, 2021

In a press release on Friday EFFAT stated "Protecting agri-workers' health is EFFAT's number one priority. EFFAT calls for an immediate ban on glyphosate in the renewal process, which ends in 2022. EFFAT also calls for more investments in the promotion of alternatives to the use of glyphosate and other harmful pesticides and urges a clear governance in charge of a smooth transition with the involvement of Trade Unions. Existing jobs must be protected and new quality ones created.

"The newly adopted position on the issue responds to EFFAT's commitment to a more sustainable agriculture which underpins, inter alia, free trade agreements with binding requirement to respect highest environmental and social standards, investments in workers' skills, social protection and research and development towards sustainable pest management.

“As sufficient evidence exists on the risks related to the use of glyphosate for workers, human health and biodiversity, EFFAT calls for the immediate ban of glyphosate as an active substance in herbicide products in the renewal process which is expected to end in 2022. The precautionary principle should guide EFSA and ECHA assessments.

> ***Glyphosate Box***
>
> *Glyphosate Residue Free Certification for Food Brands – Click Here*
>
> *Test Your Food and Water at Home for Glyphosate – Click Here*
>
> *Test Your Hair for Glyphosate and other Pesticides – Click Here to Find Out Your Long-Term Exposure*

“If a transition period is to be set, it should be as short as possible and only apply for limited cases in professional use, whilst for uses in public areas, private gardens, railway tracks, desiccation, and all cases where Integrated Pest management (IPM) can be used, the ban should apply immediately. In any case, there should be no more use of glyphosate in Europe from 2024.

“EFSA, ECHA and the European Commission should carry out their assessment in atransparent and reliable way, free of the influence of the agro-chemical industry. The protection of agricultural workers’ health and safety must be considered as one of the main priorities throughout the scientific evaluation that will guide the process. The use of Personal protective equipment (PPE) should not be given a prominent position in the scientific assessment, as evidence shows that PPE is not always available, and its effectiveness is often over-estimated.

“Alternatives to the use of glyphosate and other harmful chemicals already exist and must be further promoted. This

includes agronomic practices, mechanical and biological weed control, animal grazing and natural herbicides.

“A 13-week pilot study run by the Ramazzini Institute in Bologna in 2019 demonstrates that exposure to glyphosate-based herbicides from prenatal period to adulthood induced endocrine disruptive effects and altered reproductive developmental parameters in male and female rats. A recent study has proven glyphosate acts as an endocrine disruptor in the case of exposure during pregnancy.

“EFFAT supports the ambitious environmental objectives of the Green Deal and the Farm to Fork strategy, including the 50% reduction target for use and risk of pesticides by 2030.1 However, acting solely at a European level will not be sufficient to protect consumers’ health, safeguard our ecosystems and biodiversity and prevent soil erosion. On the contrary, it may affect jobs and the competitiveness of the EU agriculture sector. A vision towards a more sustainable agriculture without glyphosate and other hazardous chemical must be pursued at a global level. The EU should be at the forefront of this radical change, since the decisions taken in the EU will also have a substantial impact in other countries.

“It is not acceptable that harmful pesticides already banned in the EU keep being produced and exported by European agro-chemical companies. Foodstuff produced using pesticides banned in Europe should not enter the EU market.

“If the EU were to adopt a different approach to Free Trade Agreements (FTAs), this could contribute to building a more sustainable vision for the agriculture sector. Agriculture and food always require specific attention in the negotiation of FTAs, as the economic, social and environmental sustainability of these sectors is fragile and easily disrupted. Moreover, the respect of equal environmental and social standards must be a precondition to engage in negotiations.”

Glyphosate Associated With 503 Infant Deaths Per Year in Brazil – Study

Glyphosate Associated With 503 Infant Deaths Per Year in Brazil – Study

> ***Researchers find deterioration in health conditions at birth in areas downstream from intensive GM soy production***

by GM Watch
June 2, 2021

The following is a slightly shortened version of a BBC Portuguese-language report on a carefully conducted study published in 2020, which has been largely overlooked till now. The study shows that glyphosate contamination of water, driven by expanded GM soy production, leads to a large increase in infant mortality, as well as a higher probability of low birth weight and a higher probability of premature births.

Glyphosate is the most popular pesticide in Brazil. It represents 62% of the total herbicides used in the country and, in 2016, sales of this chemical in thousands of tons were higher than the sum of the seven other pesticides most commercialised in the national territory.

Used on GM glyphosate-tolerant soybeans, the herbicide contributed to Brazil becoming the largest producer of the grain in the world, surpassing the United States.

As a result, the GDP (Gross Domestic Product) of soy-producing states has grown far above the economy of the country as a whole in recent decades. And the income generated by agricultural activity has stimulated other economic sectors in the producing regions.

But the new study, carried out by researchers at the universities of Princeton, FGV (Fundação Getulio Vargas) and Insper, reveals that this generation of wealth has a high cost. According to the study, the spraying of glyphosate on soybean crops led to a 5% increase in infant mortality in southern and central-western municipalities that receive water from soybean regions.

This represents a total of 503 more infant deaths per year associated with the use of glyphosate in soy production.

“There is great concern about the effects of herbicides on populations that are not directly involved in agriculture, who are not directly exposed to pesticides,” Rodrigo Soares, full professor at the Lemann Foundation Chair at Insper and one of the authors of the study, alongside Mateus Dias (Princeton) and Rudi Rocha (FGV), told the BBC.

“Although these substances are present in the body of more than 50% of the western population, we do not know if this is harmful or not,” added the researcher.

“Our article is one of the first to credibly show that this should indeed be a concern, as it demonstrates contamination through watercourses in areas far from the areas of use, in a way that has never been done before.”

Bayer, owner of Monsanto since 2018 – the company that launched glyphosate on the market in 1974, under the trade

name Roundup – assesses the study as “unreliable and poorly conducted” and says the safety of its products is the highest priority of the company.

Aprosoja (Brazilian Association of Soy Producers), in turn, states that “the conclusions pointed out in the study do not seem to be supported by the scientific facts and reality found in the practice of Brazilian agriculture”.

Finally, CropLife Brasil, which represents the pesticide sector in the country, said that “for more than 40 years, glyphosate has undergone extensive safety tests, including 15 studies to assess the potential toxicity to human development and 10 studies to assess potential reproductive toxicity”.

“Regulatory authorities in Brazil, Europe, the USA and around the world have reviewed these studies and concluded that glyphosate does not pose a risk to human development or human reproduction,” said the organisation.

The use of glyphosate in Brazil

The most widely used herbicide in the world today, glyphosate was discovered by Monsanto in 1970. The pesticide is used to eliminate weeds in agriculture, acting by blocking an enzyme that is part of the synthesis of essential amino acids for plant development.

Glyphosate is a non-selective herbicide – that is, it kills most plants. Because of this, it became widely used on crops genetically modified to resist the chemical, such as GM soybeans, marketed by Monsanto under the name Roundup Ready. Glyphosate herbicides were first sold by the company under the name Roundup. In 2000, however, the glyphosate patent expired, and the product is currently offered by several manufacturers under different trade names.

Genetically modified soy was first marketed by Monsanto in the United States in 1996.

In Brazil, a first authorization for use was granted in 1998, but was almost immediately suspended by the courts. In 2003, the government granted a temporary marketing authorization, which required the incineration of the remaining seeds to prevent their reuse in the following year.

In September of that year, a provisional measure allowed producers to reuse the seeds and, in October 2004, the temporary sale concession was renewed. Finally, in March 2005, the Biosafety Law permanently authorized the production and sale of transgenic soybean seeds.

The use of genetically modified soy has spread rapidly in Brazil since 2004, representing 93% of the grain-planted area in the mid-2010s, according to data from the United States Department of Agriculture (USDA), cited by the study of researchers from Princeton, FGV and Insper.

Along with the productivity gain of the soybean crop, the use of glyphosate grew strongly in the country, more than tripling in volume between 2000 and 2010, from 39,500 tons to 127,600 tons.

Differences between Brazil and other countries

In the European Union, since 2015, there has been a wide debate about the possibility of banning the use of glyphosate, after a report by the International Cancer Research Agency (Iarc) that year classified the substance as “probable human carcinogen”, that is, as a possible cancer-causing agent.

In the United States, Bayer has already disbursed billions of dollars in deals to settle lawsuits over allegations that glyphosate causes cancer.

“In the European Union, unlike Brazil, the registration of pesticides is always for a finite time. Here, when a pesticide is registered, this registration is eternal, until it eventually comes to be questioned”, explains Alan Tygel,

member of the coordination of the Permanent Campaign Against Pesticides and For Life.

In Europe, currently, the authorization for the use of glyphosate is valid until December 2022. Austria became the first country in the region to ban the product in 2019, while Germany plans to do without the herbicide from 2024.

Another important difference, according to the activist, concerns the maximum allowed value of concentration of the pesticide in water, so that it is considered suitable for human consumption.

“Brazilian water can be considered potable containing up to 500 micrograms of glyphosate per litre, while water in the European Union can have a maximum of 0.1 micrograms of glyphosate,” said Tygel. “So, the Brazilian limit is 5,000 times higher than the European Union limit.”

If these existing regulatory differences were not enough, Brazilian agribusiness has been pressing in recent years for the approval of the Bill of Law 6,299/2002, which eases the rules for inspection and application of pesticides.

In addition, within the federal government there has been a change in the correlation between forces opposed to and in favour of the use of pesticides.

“Until 2016, there was within the government a certain balance of forces between agribusiness, family farming and public policies to encourage agroecology,” said Tygel.

“From that year on, one of the first actions of the Michel Temer government [MDB] was to end the Ministry of Agrarian Development, which developed these organic agriculture policies. Since then, we have seen an exponential increase in the number of pesticide registrations,” he said.

In 2020 alone, Brazil approved the registration of 493

pesticides, the largest number ever documented by the Ministry of Agriculture, which has compiled this data since 2000.

Glyphosate and infant mortality

The authors of the study “Down the River: Glyphosate Use in Agriculture and Birth Outcomes of Surrounding Populations” say that they decided to study the relationship between pesticide and infant mortality due to the heated debate over the use of genetically modified seeds and their combination with herbicides.

“We thought the debate was very passionate and very uninformed,” says Rodrigo Soares, from Insper. “Then we realized that the expansion of GM soy in Brazil, mainly in the Midwest and the South, as it was very fast and very marked after the introduction of the GM seeds, could be an interesting context for analysis.”

The regulatory change that allowed the use of transgenic soybean seeds in Brazil has generated what is called in economics a “natural experiment” – an event brought about by external causes, which changes the environment in which individuals, families, companies or cities operate, and that makes it possible to compare groups affected and not affected by this event.

“One concern that existed is that there could be water contamination, since toxicological studies in the United States, Argentina and Brazil detected the presence of glyphosate in rivers, but in a one-off, non-systematic way,” says Soares.

“To evaluate this, we used information about the hydrographic basins in the country and the relative position of the municipalities – above or below areas of intensive use of glyphosate,” explained the researcher.

“It was a way of understanding how the expansion of the use of

transgenic soy and glyphosate in a given municipality could affect the municipalities that receive water that passes through that region where pesticides are used."

What the researchers did then was to analyze, for the period between 2004 and 2010, when the greatest expansion of transgenic soybean production occurred in Brazil and the use of glyphosate tripled, the birth statistics of these municipalities "downstream" from areas of use intensive herbicide.

"What we have shown is that there is a deterioration in health conditions at birth in these municipalities downstream from the municipalities that expanded soy production," said the professor at Insper.

Within this deterioration in health conditions at birth are: a higher probability of low birth weight, a higher probability of premature births and – the most serious – an increase in infant mortality.

"We have also produced a series of other empirical analyzes to show that this was in fact associated with water and that this in fact appears to be associated with the expansion of soy."

Isolating the effect of glyphosate

For example, comparing data from municipalities "downstream" with municipalities "upstream" – which therefore do not receive water that has passed through areas of use of glyphosate – the researchers find that municipalities "upstream" are not affected by this worsening of birth statistics.

The researchers also demonstrate that the negative effects on health outcomes at birth are particularly strong for pregnancies most exposed to the period of application of glyphosate, which in Brazil typically occurs between October and March, since soybeans are planted in the country between

October and January.

The worsening of birth data is also greater when it rains more in the glyphosate application season, which the researchers showed by crossing health statistics with rainfall data. This finding is in line with the idea that more of the product reaches the rivers when soil erosion by rain is most significant.

Mateus Dias, a doctoral student at Princeton University and coauthor of Soares in the study, explained the researchers' decision to analyse municipalities downstream and upstream, instead of the municipalities that apply the glyphosate itself.

"Glyphosate use has an impact on soybean productivity, and this may end up affecting child mortality in that municipality in other ways – for example, higher productivity can generate higher income and this will reduce child mortality," he said.

The researchers also assessed whether the expansion of soybeans affected soil erodibility due to the advancement of agriculture over forested areas.

"We showed that this did not happen, because these areas that started to plant soy seem to have been pastures before, so there was no radical change in vegetation and consequently, there was no significant change in soil erodibility," says Dias.

Study results may contribute to better regulation

According to the researchers, the objective of the study is not to "demonise" glyphosate, but to contribute to an improvement in public policies to regulate the use of pesticides in the country.

"We know what the use of agricultural substances in general has meant throughout human history – fertilizers, herbicides, pesticides. They have indeed enabled a revolution in terms of

agricultural production and, in the net result, I believe that the effect was very positive," said Soares, from Insper.

"We only have the production we have today, with its impact on the price of food and on the populations involved in agriculture that benefit from productivity gains, because of these substances," he adds.

"This does not mean that we should not be aware of the potential negative effects," he saod, defending changes in the regulations for the use and management of pesticides and the protection of water courses and water tables.

Alan Tygel, of the Permanent Campaign Against Pesticides and For Life – created in 2011 and composed of more than a hundred social movements, trade unions and class entities, NGOs, cooperatives, universities and research institutions, has a more radical opinion.

"We believe that the central objective is in fact to end the use of these substances, especially since today there is no doubt about the technical capacity to produce food without the use of chemical and synthetic pesticides," the activist said.

According to him, the campaign's proposals are contained in a bill (PL 6670/2016), which institutes a National Pesticide Reduction Policy, with measures that range from the ban on aerial spraying, through state support for agroecology, to the ban on pesticides banned in their countries of origin and the end of tax exemptions for pesticides.

"We will fight for every small gain that we may have, because we know that each percentage less of pesticides used results in lives saved," says Tygel.

"But we know that there is no possible coexistence between organic production and the massive use of pesticides. The path that we envision is a production model that can be adopted nationally and is totally free of pesticides and transgenics."

–

The study:
Down the river: Glyphosate use in agriculture and birth outcomes of surrounding populations
Mateus Dias, Rudi Rocha, Rodrigo R. Soares
Latin American and the Caribbean Economic Association
Dec 2020
http://vox.lacea.org/files/Working_Papers/lacea_wps_0024_dias_rocha_soares.pdf

Connect with GM Watch

IG Farbensanto's Scheme to Limit Liability Shot Down

IG Farbensanto's Scheme to Limit Liability Shot Down

by **Joseph P. Farrell**, *Giza Death Star*
May 31, 2021

You may be wondering what's been happening to I.G. Farbensanto lately. It's been a while since we've heard from, or about, them, so it may be worthwhile to newer readers to apprise them of whom we're talking about. I.G. Farbensanto is our nickname for Big Agribusiness, and we used to call it Mon(ster)santo, until the big German chemical firm Bayer – a former component of I.G. Farben, the notorious German chemicals cartel that included not only Bayer, but BASR (also a still existing company, *Badische Anilin und Soda-Fabrik)* and some other

companies – Bayer bought Monsanto (and Monsanto's legal problems) a few years ago. Accordingly, we changed our nickname for Big Agribusiness to IG Farbensanto. Our other reason for the monikers was the dubious history of Big Agribusiness and its practices regarding GMOs, which I assume most readers here are familiar with.

So now we come to the story, shared by M.W.:

https://usrtk.org/monsanto-roundup-trial-tracker/judge-shoots-down-bayers-plan-to-limit-future-roundup-legal-liability-issues-harsh-criticism/

Here's the story in a nutshell:

> *The federal judge overseeing nationwide Roundup litigation on Wednesday denied Bayer's latest attempt to limit its legal liability from future cancer claims associated with its glyphosate-based herbicides, citing numerous "glaring flaws" in a settlement proposed to apply to Roundup users who have not yet sued the company but may want to do so in the future.*
>
> *Saying parts of the plan were "clearly unreasonable" and unfair to cancer sufferers who would be part of the class settlement, U.S. Judge Vince Chhabria castigated Bayer and the small group of lawyers who put the plan together in conjunction with Bayer.*
>
> *He pointed out that the company has been "losing trials left and right" in claims brought by people suffering from non-Hodgkin lymphoma (NHL) who alleged exposure to Monsanto's Roundup and other glyphosate-based herbicides were the cause.*
>
> *Bayer has owned Monsanto since 2018 and has been struggling to defend the cancer claims ever since. Cancer victims have won three trials held to date, and tens of thousands of other plaintiffs have filed lawsuits alleging exposure to Monsanto's herbicides caused them to develop NHL while Monsanto spent decades hiding the risks.*

…

> *Judge Chhabria said in his decision that the company's desire to set up a "science panel" to determine whether or not the herbicides actually cause cancer rather than leave that question to future juries is because of the trial losses the company has so far suffered.*
>
> *The "reason Monsanto wants a science panel so badly is that the company has lost the 'battle of the experts' in three trials, the judge wrote in his order. "At present, the playing field on the issue of expert testimony related to causation is slanted heavily in favor of plaintiffs."*

Gee… fancy that. A multinational corporation which was formerly a part of I.G. Farben seeks to avoid legal liability for its products? Color me *not* surprised.

The article goes on to mention various other plans I.G. Farbensanto has for avoiding its mounting legal problems.

Here I have a suggestion for the I.G. Farbensanto board: why not take a page out of Big Pharma's playbook, and invest heavily (and covertly) in gain-of-GMO-function research? This could easily be tied to quackcine research ala the suggestion of some scientific papers a few years ago where this very thing was being proposed: GMOs doubling as quackcines. With a few donations into the right pockets, one might be able to get the National Institute of Health, the Center for Disease Control, and the World Health Organization on board. At this point, you could hire a couple of Harvard chemistry professors, and locate your research facility in – oh, I don't know, say, in Wuhan, China – and perhaps even be able to create a quackcine which is the "only" cure for a new kind of virus (that you could also support gain-of-function research into). Then you could use all of your influence on the propotainment media networks (which get lots of advertising revenue from you to begin with) to "fudge the numbers" a bit,

and create a worldwide campaign of fear, while simultaneously getting your newly installed puppet in the White House to approve a slap-dash emergency GMO-quackcine approval plan (you could maybe call it Operation Warp Speed), bypassing the normal long-term trials, and, for good measure, exempting your firm from any liability for any "adverse GMO consumption reactions" because your new plants were rushed into production because the world was facing a *crisis*. On the way to achieving all this, you could also persuade your rubber glove company to support a campaign of food distancing, and wearing rubber gloves at all times, especially while dining. You could also persuade social media platforms to hire "fact checkers" in return for some carefully laundered donations, and censor any contrarian views. This way you won't have to worry about any pesky lawsuits from whatever long-term effects of your products as might pop up in a few years.

In the meantime, one way to implement this would be to set up liaison committees with with various Big Pharma companies, to learn their techniques for avoiding legal liabilities for dubious products. While doing this, you could also donate heavily to the campaigns of Congressmen and Senators, and get special legislation passed to limit your liability, and establish "GMO courts" resembling "vaccine courts" to ensure that your liability is strictly limited.

Just a thought.

See you on the flip side…

Connect with Joseph P. Farrell

Important Court Ruling in Argentina in Favor of the Freedom of Seeds and Nature

Important Court Ruling in Argentina in Favor of the Freedom of Seeds and Nature

by **Naturaleza de Derechos**
sourced from Navdanya International
May 15, 2021

The Federal Civil and Commercial court of the City of Buenos Aires rejected the lawsuit filed by the Monsanto/Bayer company in which it claims patent rights regarding seeds.

This is a legal claim filed in early 2016 by Monsanto (a firm absorbed by the Bayer corporation in 2017) against the National Institute of Industrial Property (INPI), in order to be granted a patent application for what it considers an invention that refers – according to the agribusiness corporation – to a novel artificial DNA sequence that encodes a protein tolerant to the herbicide glyphosate and its use to prevent gene silencing in plants.

The case is part of a triad of legal actions for patent rights over genetically modified seeds focused on the claim of property rights over genetic sequences, initiated and activated by the firms Monsanto and Bayer (now unified in Bayer) as of 2016, following the ruling of Chamber III of the Civil and Commercial Chamber of the City of Buenos Aires, which in November 2015 rejected Monsanto's main lawsuit in which it claimed the patent on a double-stranded recombinant DNA molecule that gives plants tolerance to the herbicide glyphosate and plant cells with the insertion of such molecule

(the plant itself).

With the patent claim based on genetic sequences – no longer of a DNA molecule – Bayer/Monsanto consider that they can circumvent the Chamber's decision under the argument that genetic sequences are artificial constructions made in the laboratory, and therefore, they would be patentable subject matter.

In that decision, the Chamber was forceful, stating that the recombinant DNA molecule, the plant cells transformed by it and the plants generated from the latter, are not included in the protection provided by the patent system, since they do not comply with the provisions of the law. The court considered that any technical contribution made in the field of biotechnology that has an industrial application is not necessarily patentable, since the mere innovation is not comparable to inventiveness, since it is only a modification of matter already existing in nature that does not constitute any human creation, an essential requirement for patenting under the law.

In 2019, the first of the three cases initiated after this adverse decision, the Federal Civil and Commercial Court No. 7 dismissed the legal claim – filed on behalf of the Bayer company – which focused on a genetic sequence that provided soybean and corn plants with greater tolerance to the herbicide Glyphosate. The court held that there was no inventive step and rejected Bayer's claim, who accepted the ruling, leaving it firm at first instance.
https://www.facebook.com/naturalezadederechos/photos/a.819769728105416/2664533746962329/

The second case was favorably accepted by the Federal Civil and Commercial Court No. 8 of the City of Buenos Aires, in November 2020, and granted Monsanto (now in the hands of Bayer) the patent right on the genetic sequence that gives tolerance to a greater amount of the herbicide glyphosate to

soybean crops (“robust tolerance” says the company in the lawsuit), and would also give a higher yield (+7%). According to Monsanto, this is the result of an inventive task that deserves the granting of a patent right (sic). The case is now under review by the Federal Civil and Commercial Court and is being monitored by Naturaleza de Derechos. A ruling is expected during the course of the year.
https://www.facebook.com/naturalezadederechos/photos/a.819769728105416/3702121933203500/

In this third case, whose court decision is dated May 13, 2021, Monsanto/Bayer alleged that the developed sequence meets a need in agribusiness, (sic) recognizing that the technology (transgenesis) developed so far to obtain plants with tolerance to the herbicide glyphosate “was exposed to problems” which it then describes as gene silencing and which the company itself has come to solve (sic) with a new procedure which it considers to be the result of an inventive activity that is related to an artificial DNA sequence that allows transgenic plants to obtain “greater tolerance” to the herbicide glyphosate.

The interesting thing about this judicial process is that the company judicially acknowledges that the transgenesis technique has shown unexpected effects such as gene silencing, which contradicts the historical arguments that agribusiness, led by Monsanto, presented regarding the insertion of transgenes as a safe methodology with predictable results.

The sentence considered that the grounds of the INPI that motivated the rejection of the patent application could not be reversed in the judicial process by Monsanto/Bayer. Specifically, the magistrate held that the plaintiff failed to prove that the objections made by the INPI Examiner when conducting the preliminary and substantive examinations during the procedure established in articles 24 and 28 of Law 24.481 had been corrected or that they were unfounded in the light of the national patent regime.

What is important about the court decision is that Judge Dr. Javier Pico Terrero went into depth in his rejection of Monsanto/Bayer's request, thus closing the historical claim of agribusiness corporations on patent rights on seeds, following the line of argument of the decision of Chamber III of the Federal Civil and Commercial Court.

In this sense, he pointed out that the plaintiff's claim is based on the idea that any technical contribution he makes in the field of biotechnology and which has an industrial application is patentable, but such an idea is not compatible with our Patent Law because it implies equating inventive activity to mere innovation (Mathély, Paul, Le droit europé en des brevets d'invention, Paris, 1978, Journal des Notaires, pp.120-122, especially p.121).

The magistrate then adds that, on the other hand, Monsanto/Bayer's argument leads to disregarding the problem of assessing the inventiveness of this type of contribution, in which there is a modification of matter already existing in nature that does not constitute any human creation whatsoever.

Thirdly – he points out – it is important to overlook the fact that the development of biotechnological research tends to be favored by discoveries and improvements that do not reach the level of an invention. In this respect, there is a certain consensus in conceiving technology as a "non-rival public good" that offers innovations of two kinds: radical and incremental (Correa, Carlos, Propiedad intelectual e innovación. La excepción de experimentación, ED t.171-850). The former, also called "major", are discontinuous events resulting from deliberate research and development efforts. On the other hand, the latter occur more or less continuously in any industrial activity and, more often than not, are the consequence of the gradual improvement of the original product suggested by engineers involved in the production process (Freeman, Christopher, El reto de la innovación, Caracas, 1987, Editorial Galac, pp.78-79, quoted by Correa, C. in the

article referred to, p.851; conf. Chamber, III, “Monsanto Technology LLC c/ Instituto Nacional de la Propiedad Industrial s/ denegatoria de patente” Expte.Nº 8.044/07 del 26.11.2015). Incremental innovation is based on the stock of accumulated knowledge and on the routine exploration of existing technologies, which makes it difficult to appreciate the creative aspect that the interested party claims (conf. Cám. Nac. Civ. y Com. Fed. Sala, III, causa “Monsanto Technology LLC c/ Instituto Nacional de la Propiedad Industrial”, aforementioned), as it happens in the present case.

In this way, the magistrate sealed with legal forcefulness his judicial decision, as well as the fate of the company in the first instance. This case has been monitored by Naturaleza de Derechos since mid-2016. That task will continue if the company Bayer/Monsanto decides to appeal the ruling before the Chamber.

Finally, it is worth highlighting the work of the lawyers of INPI, María José Vásquez, Viviana Ines Anzil, Gonzalo Lavalle and Aldo Petrone, who have maintained an impeccable defense against the Bayer/Monsanto corporation’s attempt to insist on the patenting of nature.

This post is also available in: Spanish

Translation: Carla Ramos Cortés, Navdanya International

James Corbett Redpills the Permaculture Crowd

James Corbett Redpills the Permaculture Crowd

by **Takota Coen w/ James Corbett**
sourced from **The Corbett Report**
May 9, 2021

Takota Coen of the Building Your Permaculture Property podcast talks to James Corbett about why the permaculture movement needs to wake up to the conspiracy reality before it's too late. After recommending three reports to help people understand the systems of control that are steering society right now and giving an overview of the coming technocratic neo-feudal biosecurity state, James confronts the canards about overpopulation and the programmed propaganda training the public to desire their own death. Finally, James and Takota talk about solutions and the way forward.

VIDEO COURTESY OF TAKOTA COEN: BITCHUTE / YOUTUBE

SHOW NOTES:
Building Your Permaculture Property podcast

Century of Enslavement: The History of The Federal Reserve

From Farm Boy to Financier (Saturday Evening Post confession regarding the Federal Reserve conspiracy)

How & Why Big Oil Conquered the World

Episode 086 – Medical Martial Law

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Klaus Schwab in 2016: Brain Chips Will Be Implanted in the Next Decade

Questioning 9/11: The Politician Turned Conspiracy Theorist (Mainstream hit piece on former German defence minister / 9/11 truther)

Evidence for Informed Trading on the Attacks of September 11 (including info on Wirt Walker III)

SEC admits its 9/11 informed trading investigation records were destroyed

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Solutions: The Peer-to-Peer Economy

Glyphosate Herbicides Change

Gene Function and Cause DNA Damage – New Study

Glyphosate Herbicides Change Gene Function and Cause DNA Damage – New Study

by **Sustainable Pulse**
April 30, 2021

Glyphosate-based herbicides such as Roundup activate mechanisms involved in cancer development, including DNA damage – and these effects occur at doses assumed by regulators to have no adverse effects, a new study shows. The DNA damage was caused by oxidative stress, a destructive imbalance in the body that can cause a long list of diseases, GMWatch reported Tuesday.

The study also found that the isolated active ingredient of Roundup – glyphosate alone – damaged DNA. This finding, according to the EU's pesticide law, should result in a ban on glyphosate and all its formulations. In addition, the results obtained in the study could strengthen the legal cases of the cancer sufferers in the US who are suing Bayer/Monsanto because they believe that exposure to Roundup caused their disease. Three such cases have already been decided in favour of the plaintiffs.

The new study is currently published on the pre-print website bioRxiv and has not yet been peer reviewed.

How the study was done

The new study, led by Dr Michael Antoniou and Dr Robin Mesnage at King's College London, builds on the findings of a previous study by the same authors. In the previous study, the

researchers compared the effects in rats of a Roundup formulation, MON 52276, with those of its "active ingredient", glyphosate, tested alone. The findings showed that glyphosate and Roundup herbicide, given at doses that regulators say are safe, resulted in the animals suffering gut microbiome disturbances and oxidative stress, with indications that the liver was affected and possibly damaged.

In the followup study, the researchers analysed the liver tissue from the same rats to see if indeed damage had occurred.

The researchers carried out some of the standard tests that regulators require the pesticide industry to conduct to gain market authorisation for their products – namely blood biochemistry and kidney and liver histopathology (microscopic examination of tissue).

They also carried out in-depth tests (molecular profiling) that are not demanded by regulators or typically carried out by the industry. One type of test looked for adverse effects at a profound molecular level of biological functioning through analysis of gene expression (transcriptomics) and epigenetics (DNA methylation) in the liver and kidneys. Another type of test, using specialised genetically engineered cell lines, was intended to highlight changes in function linked with cancer formation.

In addition, the researchers carried out tests that can detect direct damage to DNA.

Roundup causes fatty liver disease – confirmed

The standard tests, histopathology and blood biochemistry analysis, found adverse effects from the Roundup treatment, namely a dose-dependent and statistically significant increase in fatty liver disease and liver cell death.

The finding of fatty liver disease from exposure to the MON

52276 formulation of Roundup confirmed the same researchers' previous observation that an ultra-low dose of another Roundup formulation, Roundup Grand Travaux Plus, administered to the same strain of Sprague-Dawley rats over a 2-year period, caused non-alcoholic fatty liver disease.

An increase in liver and kidney lesions was also detected in animals treated with glyphosate, although this did not reach statistical significance. However, the authors commented that an experiment of longer duration using more animals may have resulted in statistical significance.

Non-standard tests most revealing

Worryingly for public health, it was the non-standard molecular profiling tests that are not required by pesticide regulators that were most revealing.

First, Roundup was found to alter the expression of 96 genes in the liver specifically linked to DNA damage and oxidative stress, as well as disruption of circadian rhythms or "body clocks". The most affected genes in liver also had their expression similarly altered in kidneys. Crucially, a core set of genes whose expression was altered by Roundup was similarly changed in the glyphosate-treated animals. This strongly suggests that the key changes in gene function reflective of oxidative stress and DNA damage was due to glyphosate and not the additional substances (adjuvants) present in the Roundup formulation.

Second, direct DNA damage to the liver was found to increase with glyphosate exposure.

These findings potentially constitute a bombshell that could end the authorization of glyphosate in the EU. That's because the EU pesticide regulation (1107/2009) has what's known as hazard-based cut-off criteria. This means that if a pesticide active ingredient is shown to cause a certain type of harm to health at whatever dose, it must be banned. One of the named

types of harm is damage to DNA. The discovery that glyphosate alone damages DNA in a living animal should, if regulators follow the law, result in a ban on glyphosate.

Third, both glyphosate and Roundup were found to cause epigenetic changes known as DNA methylation. Epigenetics describes consists of layers of molecular structures associated with DNA that control the underlying function of genes. The defining feature of epigenetic changes is that they can alter how genes work but do not involve changes to the actual DNA sequence. These types of changes were found at over 5,000 genomic sites for glyphosate and over 4,000 for Roundup. This is a concern because such alterations are typically found at high frequency in cancer tissues.

Cancer

The researchers performed further laboratory tests in mouse cell lines, which are designed to highlight effects that can lead to cancer formation. Glyphosate and three Roundup formulations were assessed in these tester cell lines. It was found that two formulations of Roundup herbicide, but not glyphosate, activated oxidative stress and misfolded protein responses, both clear markers of carcinogenicity.

Ending animal testing not yet feasible

Interestingly, glyphosate was shown to damage DNA in living animals but not in the cell culture system. This shows that in vitro tests (lab tests not performed in living organisms) cannot fully substitute for tests in a living animal because certain effects will be missed. This is because animals (including humans) are whole organisms whose complexity cannot be replicated in a flask, petri dish, or test tube. While many people (GMWatch included) would like to see an end to animal testing, as long as pesticides and other chemicals are allowed to be released into the environment, such a move would put public health at risk.

Roundup more toxic than glyphosate

In summary, in general Roundup was found to be more toxic than glyphosate, confirming and building on previous observations. However, taken together, the results from the various assays conducted show that both glyphosate and Roundup herbicides activate mechanisms involved in cancer development, causing gene expression changes reflecting oxidative stress and DNA damage. Also, glyphosate alone was clearly able to induce DNA damage.

These findings directly challenge the global regulatory practice of only assessing the isolated declared active ingredient (glyphosate) and not the complete commercial formulations (Roundup) as sold and used.

The study further highlights the power of in-depth molecular profiling "omics" methods to detect changes that are missed by relying solely on conventional biochemical and histopathological measurements conducted in standardised industry tests on pesticide active ingredients. The study paves the way for future investigations by identifying gene expression changes and altered DNA methylation sites, which can serve as biomarkers and potential predictors of negative health outcomes resulting from exposure to glyphosate-based herbicides.

Investigating Roundup health effects in people

Commenting on the implications of the results, study lead Dr Michael Antoniou said, "The biomarkers we identified can be tested for in people, but we don't know if this particular pattern of biomarkers is unique to glyphosate-based herbicide exposure. Thus the biomarkers would need to be correlated with a history of exposure to glyphosate-based herbicides and measurements of glyphosate in urine.

"If high levels of glyphosate were found in the urine, and this correlated with the biomarkers identified in the new

study and the person's history of glyphosate herbicide exposure, this would indicate that exposure to glyphosate-based herbicides might be responsible for any health effects that are both indicated by our findings and found in the person. These findings should be tested first by investigations of herbicide applicators, as their exposure can be high and details of the particular herbicides used are often recorded, which would enable clearer results to be obtained."

"Safe" and "no effect" doses shown to be harmful

In the 90-day rat feeding study, different groups of animals were fed three different doses of glyphosate and the glyphosate-equivalent dose of Roundup MON 52276. The lowest dose was the concentration that regulators assume to be safe to ingest on a daily basis over a lifetime (the EU acceptable daily intake or ADI: 0.5 mg per kg of bodyweight per day). The middle dose was the dose that EU regulators concluded had no observable adverse effect (the "no observable adverse effect" level or NOAEL) in industry-sponsored rat feeding studies (50 mg per kg of bodyweight per day). The highest dose was 175 mg, the dose that US regulators concluded had no observable adverse effect.

Adverse effects were found from Roundup exposure at all dose levels in a dose-dependent fashion. These findings show that the glyphosate ADI for the EU is not safe to ingest if it comes as part of a formulated herbicide – as is the case with public exposures to herbicides. Likewise, it shows that the EU and US regulators were only able to conclude that glyphosate had "no observable adverse effect" at the levels mentioned above because the tests that they require industry to carry out are inadequate and insufficiently sensitive.

Implications for Roundup/cancer litigation

Summarising the implications of the new study, Dr Antoniou commented, "Our results are the first to simultaneously show

glyphosate and Roundup toxicity in a whole mammalian model system and provide a mechanism – oxidative stress – by which DNA damage has been observed in other systems, such as mammalian tissue culture cells.

"These findings have implications for the Roundup/cancer litigation in the US. They show that glyphosate and Roundup score positive in various tests of carcinogenicity (transcriptome/epigenome changes, oxidative stress, protein misfolding, and DNA damage) in a living animal (rat) that is accepted as a surrogate for human health effects. In my view, this strengthens the case that exposure to Roundup herbicides can lead to the type of cancer suffered by many plaintiffs, non-Hodgkin lymphoma."

–

The new study:

In-depth comparative toxicogenomics of glyphosate and Roundup herbicides: histopathology, transcriptome and epigenome signatures, and DNA damage.
Robin Mesnage, Mariam Ibragim, Daniele Mandrioli, Laura Falcioni, Fiorella Belpoggi, Inger Brandsma, Emma Bourne, Emanuel Savage, Charles A Mein, Michael N Antoniou.
bioRxiv, doi: doi.org/10.1101/2021.04.12.439463
Posted April 13, 2021.
www.biorxiv.org/content/10.1101/2021.04.12.439463v1

Abstract

Background Health effects from exposure to glyphosate-based herbicides is an intense matter of debate. Toxicity including genotoxicity of glyphosate alone has been repeatedly tested over the last 40 years. Contrastingly, few studies have conducted comparative investigations between glyphosate and its commercial herbicide formulations, such as Roundup. We thus performed the first in-depth comparative toxicogenomic evaluation of glyphosate and a typical European Union Roundup formulation by determining alterations in transcriptome and

epigenome profiles.

Methods

Glyphosate and the European Union reference commercial formulation Roundup MON 52276 (both at 0.5, 50, 175 mg/kg bw/day glyphosate equivalent concentration) were administered to rats in a subchronic 90-day toxicity study. Standard clinical biochemistry and kidney and liver histopathology was performed. In addition, transcriptomics and DNA methylation profiling of liver and selective gene expression analysis of kidneys was conducted. Furthermore, a panel of six mouse embryonic reporter stem cell lines validated to identify carcinogenic outcomes (DNA damage, oxidative stress, and protein misfolding) were used to provide insight into the mechanisms underlying the toxicity of glyphosate and 3 Roundup formulations.

Results

Histopathology and serum biochemistry analysis showed that MON 52276 but not glyphosate treatment was associated with a statistically significant increase in hepatic steatosis and necrosis. Similar lesions were also present in the liver of glyphosate-treated groups but not in the control group. MON 52276 altered the expression of 96 genes in liver, with the most affected biological functions being TP53 activation by DNA damage and oxidative stress as well as the regulation of circadian rhythms. The most affected genes in liver also had their expression similarly altered in kidneys. DNA methylation profiling of liver revealed 5,727 and 4,496 differentially methylated CpG sites between the control group and the group of rats exposed to glyphosate and MON 52276, respectively. Direct DNA damage measurement by apurinic/apyrimidinic lesion formation in liver was increased with glyphosate exposure. Mechanistic evaluations showed that two Roundup herbicides but not glyphosate activated oxidative stress and misfolded protein responses.

Conclusions

Taken together, the results of our study show that Roundup herbicides are more toxic than glyphosate, activating mechanisms involved in cellular carcinogenesis and causing gene expression changes reflecting DNA damage. This further highlights the power of high-throughput ‘omics’ methods to detect metabolic changes, which would be missed by relying solely on conventional biochemical and histopathological measurements. Our study paves the way for future investigations by reporting a panel of gene expression changes and DNA methylation sites, which can serve as biomarkers and potential predictors of negative health outcomes resulting from exposure to glyphosate-based herbicides.

Connect with Sustainable Pulse

What Big Ag Doesn’t Want You to Know: Small Farms Can Feed the World

What Big Ag Doesn’t Want You to Know: Small Farms Can Feed the World

> ***According to a new peer-reviewed paper, “The Myth of a Food Crisis,” corrupt philanthropic and academic sectors in agriculture and development perpetuate the lie that Big Ag is the only way to feed the world.***

by **Jonathan Latham, Ph.D.**

sourced from The Defender
April 21, 2021

Sustainable, local, organic food grown on small farms has a tremendous amount to offer. Unlike chemical-intensive industrial-scale agriculture, it regenerates rural communities; it doesn't pollute rivers and groundwater or create dead zones; it can save coral reefs; it doesn't encroach on rainforests; it preserves soil and it can restore the climate. Why do all governments not promote it?

For policymakers, the big obstacle to global promotion and restoration of small-scale farming (leaving aside the lobbying power of agribusiness) is allegedly that, "it can't feed the world." If that claim were true, local food systems would be bound to leave people hungry and so promoting them becomes selfish, short-termist and unethical.

Nevertheless, this purported flaw in sustainable and local agriculture represents a curious charge because, no matter where one looks in global agriculture, food prices are low because products are in surplus.

Often, they are in huge surplus, even in the hungriest countries. Farmers will tell you they are going out of business because, as a result of these surpluses, prices are low and continuously falling. Indeed, declining agricultural prices are a broad trend continuing, with the odd blip, for over a century, and applying to every commodity. This downward trend has continued even through a recent biofuel boom designed to consume some of these surpluses. In other words, the available data contradict the likelihood of food shortages. Despite the rising global population, food gluts are everywhere.

Global food models

The standard justification for claiming that these surpluses will one day turn into global food shortages comes from various mathematical models of the food system. These models are based on food production and other figures supplied to the UN by national governments. Whereas anecdotal or local evidence is necessarily suspect, these models claim to be able to definitively assess and predict the enormous, diverse and highly complex global food system.

The most prominent and most widely cited of these food system models is called GAPS (Global Agriculture Perspectives System). GAPS is a model created by researchers at the Food and Agriculture Organization (FAO) in Rome. These models – and most often GAPS – are thus what is being cited in any quantitative discussion of future food needs. GAPS, for example, is the basis for the common '60% more food needed by 2050' prediction, what Britain's chief scientist John Beddington called "a perfect storm" facing humanity.

How reliable are these food system models?

In 2010 Professor Thomas Hertel of Purdue University gave the annual presidential address of the U.S. Agricultural and Applied Economics Association. He chose to discuss the ability of mathematical models like GAPS to predict future supplies (this work was subsequently published). Hertel told his audience that those models are faulty.

What Hertel highlighted is that economic analysis has plainly shown that food supplies respond to long-term prices. That is, when prices for food items increase, food production also increases. For example, when prices increase, it becomes more worthwhile for farmers to invest in boosting their yields; but when prices are low there is little such incentive. Other actors in the food system behave similarly.

Yet global food models, noted Hertel, have adopted the

opposite interpretation: they assume global food supplies are insensitive to prices.

In the firm but diplomatic tone expected of a presidential address, Hertel told his audience:

“I fear that much of this rich knowledge has not yet worked its way into the global models being used for long run analysis of climate, biofuels and agricultural land use … it is not clear that the resulting models are well-suited for the kind of long run sustainability analysis envisioned here.”

This is rather important. Since the whole point of these models is long-term prediction, if global food models underestimate the ability of food systems to adjust to higher demand, they will tend to predict a crisis even when there isn’t one.

Like all mathematical models, GAPS and other food system models incorporate numerous assumptions. These assumptions are typically shared across related models, which is why they tend to give similar answers. The reliability of all such models therefore depends crucially on the validity of shared assumptions like the one Hertel focused on.

Hertel’s analysis therefore prompts two important questions. The first is this: If GAPS contains an assumption that contradicts the collective wisdom of conventional agricultural economics, what other questionable assumptions hide in global food models?

Surprisingly though, given the stakes, scarcely any attention has been devoted to rigorous independent testing of these crucial assumptions.

The second question is this: Is it significant that the error identified by Hertel will tend to generate predictions that are unnecessarily alarmist?

Critiquing the critical assumptions

In a new peer-reviewed paper, "The Myth of a Food Crisis," I have critiqued FAO's GAPS – and by extension all similar food system models – at the level of these, often unstated, assumptions.

"The Myth of a Food Crisis" identifies four assumptions in food system models that are especially problematic since they have major effects on the reliability of modeling predictions. In summary, these are:

1. That biofuels are driven by 'demand.'

As the paper shows, biofuels are incorporated into GAPS on the demand side of equations. However, biofuels derive from lobbying efforts. They exist to solve the problem of agricultural oversupply. Since biofuels contribute little or nothing to sustainability, land used for them is available to feed populations if needed. This potential availability (e.g., 40% of U.S. corn is used for corn ethanol) makes it plainly wrong for GAPS to treat biofuels as an unavoidable demand on production.

2. That current agricultural production systems are optimized for productivity.

As the paper also shows, agricultural systems are typically not optimized to maximize calories or nutrients. Usually, they optimize profits (or sometimes subsidies), with very different results. For this reason, practically all agricultural systems could produce many more nutrients per acre at no ecological cost if desired.

3. That crop "yield potentials" have been correctly estimated.

Using the example of rice, the paper shows that some farmers, even under suboptimal conditions, achieve yields far in excess of those considered possible by GAPS. Thus the yield ceilings assumed by GAPS are far too low for rice and probably other

crops too. Therefore GAPS grossly underestimates agricultural potential.

4. That annual global food production is approximately equal to global food consumption.

As the paper also shows, a significant proportion of annual global production ends up in storage where it degrades and is disposed of without ever being counted by GAPS. There is thus a very large accounting hole in GAPS.

The specific ways in which these four assumptions are incorporated into GAPS and other models produces one of two effects. Each causes GAPS to either underestimate global food supply (now and in the future), or to overestimate global food demand (now and in the future).

Thus GAPS and other models underestimate supply and exaggerate demand.

The cumulative effect is dramatic. Using peer-reviewed data, the discrepancy between food availability estimated by GAPS and the underlying supply is calculated in the paper. Such calculations show that GAPS and other models omit approximately enough food annually to feed 12.5 billion persons. That is a lot of food, but it does perfectly explain why the models are so discrepant with policymakers' and farmers' consistent experiences of the food system.

The implications

The consequences of this analysis are very significant on a number of fronts. There is no global shortage of food. Even under any plausible future population scenario or potential increases in wealth, the current global glut will not disappear due to elevated demand. Among the many implications of this glut is, other things being equal, global commodity prices will continue to decline. The potential caveat to this is climate chaos. Climate consequences are not factored into

this analysis. However, for people who think that industrial agriculture is the solution to that problem, it is worth recalling that industrialized food systems are the leading emitter of carbon dioxide. Industrializing food production is therefore not the solution to climate change – it is the problem.

Another significant implication of this analysis is to remove the justification for the (frequently suggested) adoption of special and sacrificial 'sustainable intensification' measures featuring intensive use of pesticides, GMOs and gene edited organisms to boost food production. What is needed to save rainforests and other habitats from agricultural expansion is instead to reduce the subsidies and incentives that are responsible for overproduction and unsustainable practices.

In this way, harmful agricultural policies can be replaced by ones guided by criteria such as ecological sustainability and cultural appropriateness.

A second implication stems from asking: if the models err on such elementary levels, why are critics largely absent? Thomas Hertel's critique should have rung alarm bells. The short answer is that the philanthropic and academic sectors in agriculture and development are corrupt. The form this corruption takes is not illegality – rather that, with important exceptions, these sectors do not serve the public interest, but their own interests.

A good example is the FAO, which created GAPS. The primary mandate of FAO is to enable food production – its motto is Fiat Panis – but without an actual or imminent food crisis there would hardly be a need for an FAO. Many philanthropic and academic institutions are equally conflicted. It is no accident that all the critics mentioned above are relative or complete outsiders. Too many participants in the food system depend on a crisis narrative.

But the biggest factor of all in promotion of the crisis narrative is agribusiness. Agribusiness is the entity most threatened by its exposure.

It is agribusiness that perpetuates the myth most actively and makes best use of it by endlessly championing itself as the only valid bulwark against starvation. It is agribusiness that most aggressively alleges that all other forms of agriculture are inadequate. This Malthusian spectre is a good story, it's had a tremendous run but it's just not true. By exposing it, we can free up agriculture to work for everyone.

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> **Jonathan Latham, Ph.D.**, is the executive director of The Bioscience Resource Project. He is a biologist and biopolitical theorist, and author of scientific papers in the fields of virology, ecology, genetics and molecular biology.

Farmers Fight Back: French, Croatians Protest Seed Law &

Takeover of Food

Farmers Fight Back: French, Croatians Protest Seed Law & Takeover of Food

by **Christian Westbrook**, *Ice Age Farmer*
April 7, 2021

Farmers in France and Croatia are standing up to EU policies that are designed to end traditional farming and ranching: Even as a new seed law CRIMINALIZES traditional seed saving, drones and satellites are launched to monitor all fishing in realtime. Croatians are wary of the EU Ag Census which takes total inventory of all food production – farms, animals, bees, anything – because it was only 1945 when Yugoslavia LAST conducted a census … right before they collectivized the farms and kicked people off their land. They remember. They recognize a total takeover of food. Do you?

Video available at Ice Age Farmer **Odysee** and **YouTube** channels.

Connect with Christian Westbrook at Ice Age Farmer

UN Food Summit Boycotted Over Gates Influence

UN Food Summit Boycotted Over Gates Influence

by **Dr. Joseph Mercola**, *mercola.com*
March 19, 2021

STORY AT-A-GLANCE

- Hundreds of farmers and human rights groups are boycotting the 2021 United Nations Food Systems Summit because they believe it favors agribusiness interests, elite foundations and the exploitation of African food systems
- The controversy began when Agnes Kalibata was appointed as the event's head; Kalibata is the president of the Alliance for a Green Revolution in Africa (AGRA), an organization funded by the Bill & Melinda Gates Foundation
- Gates is promoting an agricultural agenda that supports agrochemicals, patented seeds, fake meat and corporate control
- Planning documents for the Summit also reveal plans for a "radical transformation shift" in Africa, away from traditional farming practices and toward industrial farming — even describing the potential as the "new oil"

Hundreds of farmers and human rights groups are boycotting the 2021 United Nations Food Systems Summit because they believe it favors agribusiness interests, elite foundations and the exploitation of African food systems.[1]

The Summit claims it is convening to "launch bold new actions to transform the way the world produces and consumes food,"[2] but critics say it is biased toward industrial, corporate farming while leaving out those in regenerative agriculture and the knowledge of indigenous people.[3]

The controversy began right from the start, when U.N. secretary general António Guterres appointed Agnes Kalibata as the event's head. Kalibata is the former Rwandan agriculture minister who is now the president of the Alliance for a Green

Revolution in Africa (AGRA), an organization funded by the Bill & Melinda Gates Foundation.[4]

AGRA is essentially a Gates Foundation subsidiary, and while some of its projects appear to be beneficial, most of its goals are centered on promoting biotechnology and chemical fertilizers.

Corporate Interests Dominating Food Summit

After Kalibata was appointed special envoy to the 2021 United Nations Food Systems Summit in December 2019, 176 civil society organizations and farmer groups from 83 countries urged Guterres to withdraw the appointment due to Kalibata's clear conflicts of interest with corporate interests.

A second statement, signed by more than 500 academics and organizations, also opposed Kalibata's appointment to, and her organization of, the Summit.[5] AGRA is known to promote the interests of agribusiness, leading civil society organizations to argue that Kalibata's appointment was a clear conflict of interest.

"This concern over Kalibata's nomination has been largely borne-out by Kalibata's top-down approach to organizing the Summit and her exclusion of those most affected by food insecurity and malnutrition in the planning process," according to an August 2020 report by AGRA Watch.[6]

A dozen individuals representing development banks, academic institutions and the private sector came forward in support of Kalibata, but "11 had past or current connections to the Gates Foundation," AGRA Watch reported, adding:[7]

> *"These findings illustrate the influence of the Bill and Melinda Gates Foundation (BMGF) on global food and agricultural policy. AGRA Watch has continually documented the role of the BMGF in influencing agricultural development,*

which has grown immensely in recent years.

That Gates Foundation seeks to exercise influence not only through its funding of projects and shaping of expertise, but also in funding the governance platforms that determine food and agricultural policy. This role of the BMGF in driving policy decisions based on its proprietary and technological model of agricultural development is often overlooked."

Precision Agriculture, Genetic Engineering Take Center Stage

Concerns that the Summit was dominated by corporate industry heightened when its concept paper included precision agriculture, data collection and genetic engineering as pillars for addressing food security while leaving out regenerative agriculture.

As reported by The Guardian, Michael Fakhri, the U.N. special rapporteur on the right to food, wrote to Kalibata stating that the Summit was focused on "science and technology, money and markets" while leaving fundamental questions about inequality, accountability and governance unaddressed:[8]

"It [appears] heavily skewed in favor of one type of approach to food systems, namely market-based solutions … it leaves out experimental/traditional knowledge that has the acute effect of excluding indigenous peoples and their knowledge. The business sector has been part of the problem of food systems and has not been held accountable."

The 300 million-member Civil Society and Indigenous Peoples' Mechanism announced plans to boycott the Summit and set up a meeting of their own, while others, including Sofía Monsalve Suárez, head of nutrition rights group Fian International, questioned the Summit's legitimacy:[9]

"We cannot jump on a train that is heading in the wrong direction … We sent a letter last year to the secretary general about our concerns. It was not answered. We sent another last month, which has also not been answered. The summit appears extremely biased in favor of the same actors who have been responsible for the food crisis."

Other nutrition experts also expressed the need for the Summit to be more inclusive of initiatives such as agro-ecology and food sovereignty.

Food Group Calls on UN to Sever Ties With WEF

A group of 148 organizations from 28 countries also called on the U.N. to revoke their 2019 strategic partnership formed with the World Economic Forum (WEF). WEF's involvement with the Summit has been called a form of "corporate hijacking" that would infringe on people's rights to food and food production. According to the People's Coalition on Food Sovereignty:[10]

"The WEF will exploit the Summit to streamline neoliberal globalization, which it has espoused for the past 50 years. It is the perfect venue to push for the role of 'Fourth Industrial Revolution technologies' to transform food systems, which the WEF has been championing since 2017.

A corporate-led FSS [Food Systems Summit] would be a great advantage to the political elites and corporate billionaires, enabling them to pose hypocritically as responsible entities that promote healthier diets and climate action.

… The sidelined and marginalized sectors in society — the poor farmers, workers, Indigenous Peoples, herders, pastoralists, fisherfolks, urban poor, women, Dalits, and youth — should replace these corporate moguls in shaping the Summit's proceedings and reforms."

Beyond the Summit, WEF's takeover of the U.N. has been denounced by more than 400 civil society organizations and 40 international networks, which claim it will only accelerate the move toward a privatized, undemocratic global takeover. Monsalve Suárez stated:[11]

> *"Corporations in the global industrial food chain alone destroy 75 billion tons of topsoil annually and are responsible for the annual loss of 7.5 million hectares of forest. This destruction, along with other factors, leaves 3.9 billion underfed or malnourished people. The WEF represents the interests of those who destroy the environment and abuse our human rights. It cannot be considered a strategic partner in solving the world's crises."*

Africa's Traditional Food Systems Under Attack

Planning documents for the Summit also reveal plans for a "radical transformation shift" in Africa, away from traditional farming practices and toward industrial farming — even describing the potential as the "new oil."[12] The African Centre for Biodiversity (ACB), which released the documents, said the plans recycle the "same false solutions … with the same narrow benefits accruing to a limited number of actors."[13]

For instance, one section of the documents is titled "the promise of digital and biotechnologies and the transformation of food systems," and describes "the significant potential for capturing large economic, social and environmental payoffs from the use of biotechnology products … In West Africa, for instance, farmers can benefit significantly from the adoption of Bt cotton."[14]

Technology and development take center stage, along with "strengthening the use of big data" for decisions on things like fertilizer use, genetically engineered crops and

"accessing markets." As noted by U.S. Right to Know:[15]

> *"This agenda aligns perfectly with the plans of the agrichemical industry, the Gates Foundation and its main agricultural development program, the Alliance for a Green Revolution in Africa, which encourages African countries to pass business-friendly policies and scale up markets for patented seeds, fossil-fuel based fertilizers and other industrial inputs they say are necessary to boost food production."*

"The main problem with AGRA," Global Justice Now explains, "is that it is laying the groundwork for the deeper penetration of African agriculture by agribusiness corporations," and:

> *"The BMGF, through AGRA, is one of the world's largest promoters of chemical fertiliser. Some grants given by the BMGF to AGRA have been specifically intended to 'help AGRA build the fertiliser supply chain' in Africa. One of the largest of AGRA's own grants, worth $25 million, was to help establish the African Fertiliser Agribusiness Partnership (AFAP) in 2012 whose very goal is to 'at least double total fertiliser use' in Africa."*[16]

Bill Gates Is the Biggest Owner of US Farmland

The BMGF's involvement in the Summit is also self-serving, as Bill Gates owns more farmland in the U.S. than any other private farmer, having purchased a total of 242,000 acres — much of it considered some of the richest soil in the U.S. — at a frenzied pace over the past few years.[17]

Gates, however, isn't interested in regenerative agriculture but instead is furthering an agricultural agenda that supports agrochemicals, patented seeds, fake meat and corporate control — interests that undermine regenerative, sustainable, small-scale farming. One of the key players in this agenda is the

widespread adoption of synthetic meat.

Gates has made it clear that he believes switching to synthetic beef is the solution to reducing methane emissions that come from animals raised on concentrated animal feeding operations (CAFOs).[18]

The strong recommendation to replace beef with fake meat is made in Gates' book "How to Avoid a Climate Disaster: The Solutions We Have and the Breakthroughs We Need," which was released in February 2021.[19] In an interview with MIT Technology Review, he goes so far as to say that people's behaviors should be changed to learn to like fake meat and, if that doesn't work, regulations could do the trick.[20]

What many aren't aware of, however, is that Gates is either personally invested in, or invested in via Breakthrough Energy Ventures, fake meat companies like Beyond Meats, Impossible Foods, Memphis Meats and other companies he actively promotes.[21]

When asked whether he thinks plant-based and lab-grown meats could "be the full solution to the protein problem globally," he says that, in middle- to above-income countries, yes, and that people can "get used to it."[22]

Small Farmers, Regenerative Agriculture Are the Answer

The U.N. Food Summit is poised to bow down to corporate ideology instead of embracing the small farmers and regenerative practices that have true potential to feed the world and heal the planet. If you're new to this discussion, you can find the top six reasons to support regenerative agriculture here. As Timothy Wise, senior adviser at the Institute for Agriculture and Trade Policy, told The Guardian:[23]

> *"A growing number of farmers, scientists and development experts now advocate a shift from high-input chemical-intensive agriculture to low-input ecological farming. They are supported by an array of new research documenting both the risks of continuing to follow our current practices and the potential benefits of a transition to more sustainable farming."*

Connect with Dr. Joseph Mercola

James Corbett w/ Curtis Stone: An Introduction to Homesteading

Homesteading

by **James Corbett**, *The Corbett Report*
March 18, 2021

Everyone knows that it is becoming harder and harder to maintain a life of independence or achieve community with like-minded people in the modern urban environment.

Today Curtis Stone (formerly known as The Urban Farmer) joins us to discuss how he is creating a homestead in a rural area to provide food, water, energy and shelter for his family.

We discuss the growing movement of people taking the "stead

pill" and how others can explore the homesteading solution.

Watch
on Archive / BitChute / LBRY / Minds / YouTube or Download the mp4

From the field site: https://fromthefield.tv/

Women's Day 2021 – A Message From Dr. Vandana Shiva

Women's Day 2021 – A Message From Dr. Vandana Shiva

by **Dr. Vandana Shiva**, *Navdanya International*
March 8, 2021

Over five decades I have witnessed how food imperialism is at the root of violence against the Earth and against women. In India, wherever industrial agriculture has displaced women, women have been reduced to a disposable sex and female foeticide has emerged. I have written about this both in *Staying Alive* and in *Earth Democracy*.[1]

Food sovereignty is the foundation of women's emancipation, because food is the basis of life, food is the currency of life. Henry Kissenger clearly articulated his politics of food imperialism when he declared the "Food is a weapon. Whoever controls food controls people."

For thousands of years, women have contributed to the production of food, conservation of biodiversity, and earth

care.

Food sovereignty in women's hands is important for their own emancipation but also for all people and all life on Earth.

In 1996, Maria Mies and I wrote a declaration in Leipzig at the Plant Genetic Resources Conference which was signed by more than 100,000 women for the World Food Summit.[2]

For Women's Day 2021, Women Farmers of Diverse Women for Diversity / The Women's Food Sovereignty Movement has issued a new report, 'Earth Rising, Women Rising: Regenerating the Earth, Seeding the Future.'[3]

As we have written in 'Earth Rising, Women Rising: "We are a strand in the web of life and the web of biodiversity. We are custodians, breeders and producers of seed. Living seed is our living heritage which we have received in diversity and integrity from our ancestors, and which we have a duty to safeguard and pass on to future generations. "

Seed holds our co-evolutionary potential as part of creation.

Seed sovereignty (Bija Swaraj) is our birth right.

We are reclaiming our seed sovereignty.

Life begins as seed. Food begins as seed.

Healthy food grows from healthy seed.

We are breeding, producing, and sharing our seeds as a commons. Seed is not an invention. Seed is not the intellectual property of corporations. Seed is life. Seed is sacred.

We have created local community seed banks to conserve indigenous seeds and farmers' seed producer groups to multiply and distribute nutritious and climate-resilient, local seeds.

Our indigenous Desi seeds and farmers' varieties have much

higher nutritional value than the so-called ‘High Yielding Varieties.’ These have been bred to adapt to chemicals; are nutritionally empty, contributing to diseases of deficiencies of micronutrients and trace elements; and loaded with disease-causing toxics. Indigenous seeds need less water, are more pest and disease-resistant and more climate-resilient. GMO seeds are toxic, and GMO Bt cotton has not only failed to control pests, but has trapped farmers in debt and driven hundreds of thousands among them to suicide.

The attempts to promote GMOs based on gene editing are designed to undermine biosafety regulations.

We have rejuvenated our Climate Resilient indigenous seeds.”[4]

I started Navdanya and the Seed Sovereignty and Food Sovereignty movement more than three decades ago when multinational corporations tried to hijack our seed and food through the World Bank’s conditionalities and WTO’s free trade rules.

To my young sisters I send a message of love, care and courage. We have to shed the multiple colonisations of capitalist patriarchy that reduced nature and women to a colonies, and denied their power and creativity. As members of the Earth Family, co-creating with the living Earth, we are powerful, in a non-violent, creative way.

The future is in your hands. Take care of the Earth so she can take care of you.

Dr Vandana Shiva

President of Navdanya International

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Paris Is Turning Its Dark Underground Parking Lots into Mushrooms Farms

Paris Is Turning Its Dark Underground Parking Lots into Mushrooms Farms

by **Andy Corbley**, *Good News Network*
February 16, 2021

Unused underground parking garages in the French capital and beyond are being turned into bespoke mushroom farms, thanks to a company called Cycloponics.

Allowing an extremely nutritious crop to be grown and sold directly in Paris, the initiative is part of a number of renovation projects the City is encouraging and sponsoring.

Along with shitake, oyster, and white button mushrooms, Cycloponics grows chicory—a French delicacy that can grow in the dark—as well as microgreens like mini broccoli. These are delivered via bicycle to local organic grocery stores.

Their location in Paris is called "The Cave," and it's one of three such converted garages that have been co-founded since 2017 by the coincidentally named Theo Champagnat.

"70% of people live in towns today, and in this population there is a demand for local and organic products like ours," says Champagnat.

In a BBC video news report on the operation, Dougal Shaw details how during the 1960s and '70s, large apartment blocks were almost always built with underground parking garages. Now car ownership is dwindling, and many of the garages are becoming derelict haunts for illicit activity.

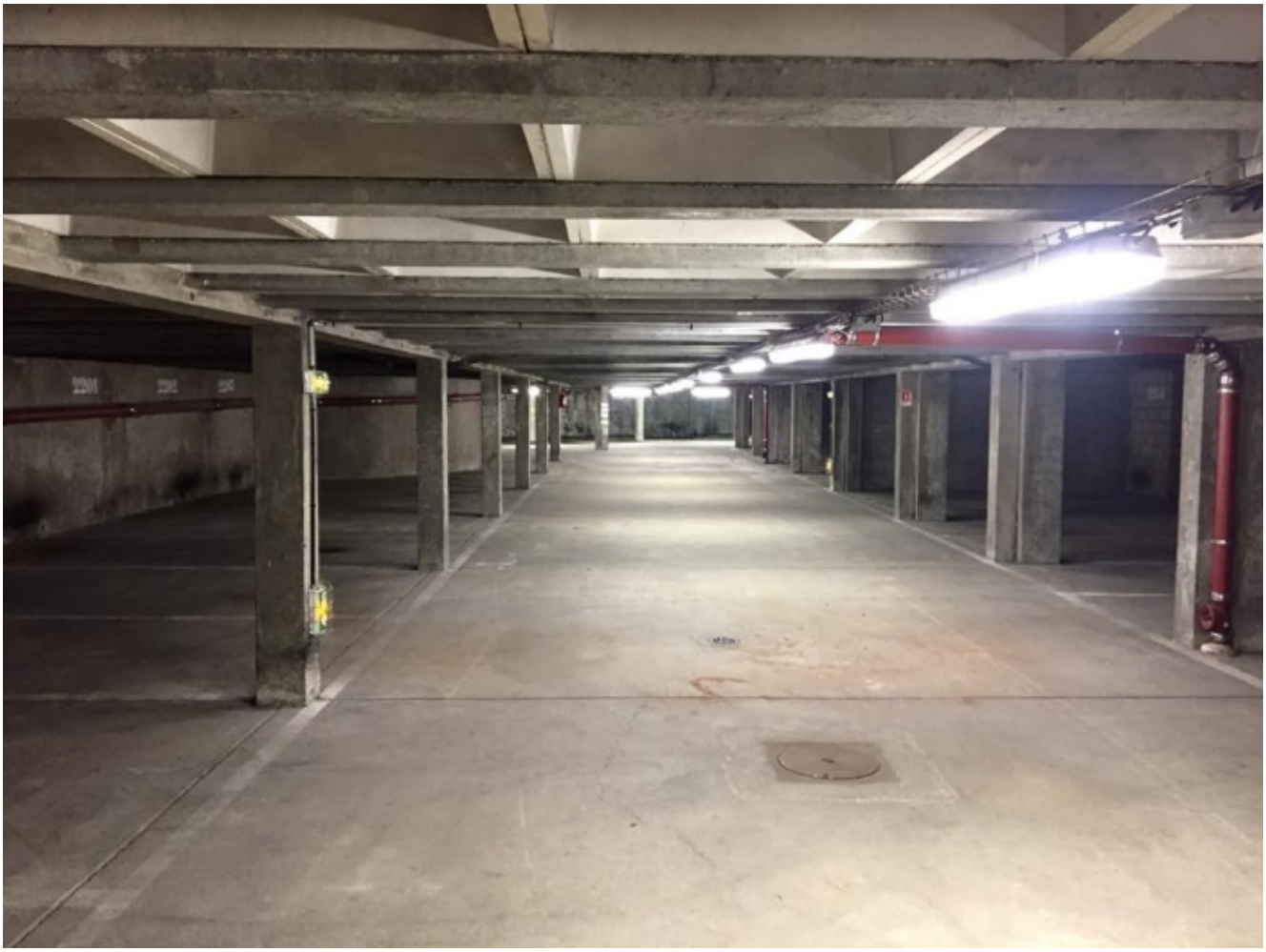

image credit: Cycloponics

in the mid-2010s, Parisian Mayor Anne Hidalgo launched *Reinventing Paris—The Subterranean Secrets of Paris* which offered designers, architects, and others a chance to help transform abandoned underground lots into cultural spaces, gastronomic eateries, and other civic-minded projects.

One such project turned an old metro stop into a market/food court on one side of the platform, and the other into a cocktail bar, featuring luminous light and trendy designs.

But this offering in Paris wasn't the first time Cycloponics took to the dark and dank in the heart of a French city. Their first project, built in an old German bunker dating back to 1878, is located in the city of Strasbourg, while their most recent mushroom project is centered in Bordeaux.
These days? Champagnat and the 10 people who work with him are able to harvest around 100-200 kilos of mushrooms from their

lots per week. Not bad for a bunch of college-age basement dwellers.

cover image credit Cycloponics

‘Ice Age Farmer’ Christian Westbrook w/ ‘Urban Farmer’ Curtis Stone: On the Unfolding Global Takeover of the Entire Food System

‘Ice Age Farmer’ Christian Westbrook w/ ‘Urban Farmer’ Curtis Stone: On the Unfolding Global Takeover of the Entire Food System

Tough Talk On Food, Farming, and the Future with The Ice Age Farmer

by **Curtis Stone w/ Christian Westbrook**
February 12, 2021

Video available at Curtis Stone **BitChute** & **Odysee** channels – and at Ice Age Farmer **BitChute** & **LBRY** channels.

Connect with **Curtis Stone**: https://theurbanfarmer.co/
Connect with **Christian Westbrook**: https://www.iceagefarmer.com/

Police for Freedom: Spanish Police Rise Up Against "Covid" Lies & Mandates – Saying No to Masks, Forced Vaccines & Crimes Against Humanity

Police for Freedom: Spanish Police Rise Up Against "Covid" Lies & Mandates – Saying No to Masks, Forced Vaccines & Crimes Against Humanity

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Marching with Policias por la Libertad in Valencia

by **Dawn of Peace**
November 30, 2020

Original video is available at Dawn of Peace YouTube channel.

An amazing movement is beginning to take form in Spain as a group of police has come together to blow the whistle on the systemic human rights abuse and take a stand for freedom.

On the 28th of November, **Policías por la Libertad** (Police for Freedom) were leading the peaceful march through Valencia, supported by **Dawn of Peace**, **Doctors for Truth**, **Scientists for Truth**, **Firemen for Freedom and Truth**, **Soberanía y Salud** as well as **Rebelión en La Granja**.

We are coming together and standing on the right side of history! Join us!

Contact the groups here:
Policías por la Libertad : https://www.policiasporlalibertad.org
Dawn of Peace : https://dawnofpeace.org
Medicos por la Verdad : https://medicosporlaverdad.es
Soberanía y Salud : https://soberaniaysalud.com/ https://soberaniaysalud.com/
Rebelión en La Granja : https://t.me/ReVelionenlagranja
Difusión Josep Pamies : https://t.me/BoticaBerde

See Related:

‘Police for Freedom’: Spanish Officers Demonstrate Against the Coronavirus Lockdown and Masks

by **Amy Mek**, **RAIR Foundation USA**
November 30, 2020

On November 28, 2020, “Police for Freedom” a group comprised of Spanish Law Enforcement officers, held a demonstration in the streets of downtown Valencia, Spain. The officers are protesting against their socialist government’s management of the Chinese coronavirus, the violation of citizens freedoms,

and the mandated mask measures.

The demonstrators held signs declaring, “Enough with the Lies, “Enough with the Human Rights Abuse”, “The police want to breathe”, and “No to the Vaccine”.

“Police for Freedom” is a recently formed group that brings together members of State Security Forces and private surveillance groups to ensure the rights of Spanish citizens are protected. This same patriotic group held a large march in Madrid on November 7.

The groups spokesperson Sonia Vescovacci, a national police officer on leave of absence, has called for the civil liberties of citizens to be respected. Vescovacci has encouraged her fellow officers to fail to comply with the government tyrannical orders to punish people who do not use masks or deny the seriousness of the pandemic.

Although the group instructed all participants to wear masks, a large portion of the demonstrators did not listen to their request. Following the rally, Valencia’s local government targeted police, the event organizers and participants for failing to comply with the states coronavirus measures. Ninety police officers have received fines for demonstrating against the “Imposition of masks” without wearing them.

Read More Here…

Daycare Center in Finland Built a 'Forest Floor' Playground and Improved Children's Immune Systems

Daycares in Finland Built a 'Forest Floor', And It Changed Children's Immune Systems

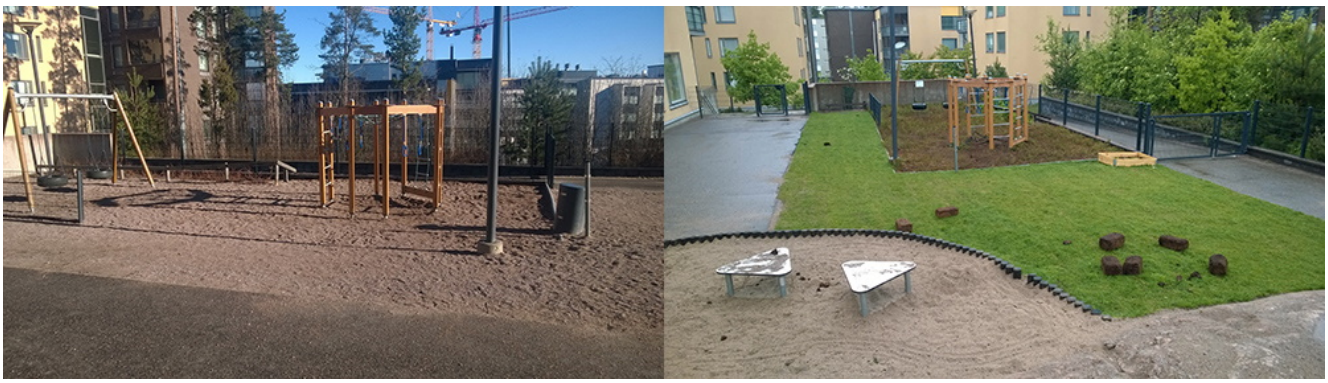
by **Carly Cassella**, *Science Alert*
October 22, 2020

Playing through the greenery and litter of a mini forest's undergrowth for just one month may be enough to change a child's immune system, according to a small new experiment.

When daycare workers in Finland rolled out a lawn, planted forest undergrowth such as dwarf heather and blueberries, and allowed children to care for crops in planter boxes, the diversity of microbes in the guts and on the skin of young kids appeared healthier in a very short space of time.

Compared to other city kids who play in standard urban daycares with yards of pavement, tile and gravel, 3-, 4-, and 5-year-olds at these greened-up daycare centres in Finland showed increased T-cells and other important immune markers in their blood within 28 days.

"We also found that the intestinal microbiota of children who received greenery was similar to the intestinal microbiota of children visiting the forest every day," says environmental scientist Marja Roslund from the University of Helsinki.



One daycare before (left) and after introducing grass and planters (right). (University of Helsinki)

Prior research has shown early exposure to green space is somehow linked to a well-functioning immune system, but it's still not clear whether that relationship is causal or not.

The experiment in Finland is the first to explicitly manipulate a child's urban environment and then test for changes in their micriobiome and, in turn, a child's immune system.

While the findings don't hold all the answers, they do support a leading idea – namely that a change in environmental microbes can relatively easily affect a well-established microbiome in children, giving their immune system a helping hand in the process.

The notion that an environment rich in living things impacts on our immunity is known as the 'biodiversity hypothesis'. Based on that hypothesis, a loss of biodiversity in urban areas could be at least partially responsible for the recent rise in immune-related illnesses.

"The results of this study support the biodiversity hypothesis and the concept that low biodiversity in the modern living environment may lead to an un-educated immune system and consequently increase the prevalence of immune-mediated diseases," the authors write.

The study compared the environmental microbes found in the

yards of 10 different urban daycares looking after a total of 75 kids between the ages of 3 and 5.

Some of these daycares contained standard urban yards with concrete and gravel, others took kids out for daily nature time, and four had their yards updated with grass and forest undergrowth.

Over the proceeding 28 days, kids in these last four daycares were given time to play in their new backyard five times a week.

When researchers tested the microbiota of their skin and gut before and after the trial, they found improved results compared to the first group of kids that played in daycares with less greenery for the same amount of time.

Even in that short duration of the study, researchers found microbes on the skin and guts of children who regularly played in green spaces had increased in diversity – a feature which is tied to an overall healthier immune system.

Their results largely matched the second group of kids at daycares who had outings for daily nature time.

Among kids who got outside, playing in the dirt, the grass and among the trees, an increase in a microbe called gammaproteobacteria appeared to boost the skin's immune defence, as well as increase helpful immune secretions in the blood and reduce the content of interleukin-17A, which is connected to immune-transmitted diseases.

"This supports the assumption that contact with nature prevents disorders in the immune system, such as autoimmune diseases and allergies," says Sinkkonen.

Read more…

cover image credit: congerdesign / pixabay

Ancient Gardens of North America

Ancient Gardens of North America

by **Jonathan Eugels**, *Permaculture Research Institute*
September 29, 2020

Native Americans, like many other ancient civilisations, were clued in on the inner-workings of nature. They found ways to harmonise with it, taking advantage of biological cycles and utilising astute observation to make abundance seem almost fortuitous. But, it wasn't all luck. Sometimes colonisers simply didn't (and still don't) recognise the guiding hand behind these highly productive, innately cooperative systems that were in place when they arrived. We continue to pay a price for that oversight today, and our payments may have only just begun.

One of the reasons permaculture is such an appealing methodology for creating sustainable homes, gardens, and lifestyles in the modern world is that it so often harkens back to ancient techniques, adopting the logic behind them whilst imbuing them with today's technological advancements. In this interplay between bygone ingenuity and mechanical diggers, wells of inspiration spring forth for innovative design that keeps us comfortable and, at the same time, emboldens nature to put forth its best work on our behalf.

With that in mind, perhaps now—amidst Pacific Coast wildfires, cues of hurricanes in the Atlantic, and a pandemic putting the brakes on consume-it-all capitalism—is a good time to revisit what was happening in the gardens of North America a few hundred years ago, before colonisation. Maybe we don't want to live exactly that way today, minus the internet and all that good stuff, but maybe there are some answers for today's problems that were overlooked back then.

Chinampas

Often noted as perhaps the most productive and sustainable agricultural system the world has ever seen, chinampas were an Aztec technique (adopted from an earlier civilization they conquered), and essentially Mexico City is fed by what used to be incredibly soggy swampland. Chinampas were a clever method of converting very difficult land, agriculturally speaking, like this into multiple layers of production that continually renewed itself.

What they did was took low-lying wet land and dug canals through it, piling the sides of the canals with alternating levels of mud and decaying vegetation excavated during the process. The canals were used for fish and aquatic plants, and the very fertile "floating islands", about four meters wide and whatever length made sense, had diverse crop plants growing on them, as well as over the channels between them.

The canals were periodically dredged to keep the waterways deep enough for canoes and the land fertile from the rich silt added to the garden beds. In addition to providing aquatic production, the canals functioned as a network of transportation for harvesting and tending to the chinampas. It requires much less energy, be it human-power or engine-driven, to float crops to their destination rather than move them over land.

See also:

https://midwestpermaculture.com/2012/12/chinampas-gardens/

http://www.chinampas.info/

Connect with Permaculture Research Institute

When Gardens Are Outlawed, Only Criminals Will Grow Food

When Gardens Are Outlawed, Only Criminals Will Grow Food

by **Christian Westbrook**, *Ice Age Farmer*
August 31, 2020

Also available at **Ice Age Farmer BitChute** channel.

“Gardening is too dangerous!”

Authorities are REMOVING plants grown from “unauthorized seeds!”

The media is warning that homegrown food can be poisonous, and backyard chickens can be fatal.

Soon, for your protection, growing food and raising animals will be illegal.

Competition is sin to the transhumanists who are taking over our food supply, and they intend to eliminate it.

Christian looks ahead — but not too far — at the agenda to criminalize homesteading.

Why Bats Are Ecological Superheroes

Why Bats Are Ecological Superheroes

by **Dr. Joseph Mercola**, *mercola.com*
June 20, 2020

STORY AT-A-GLANCE

- Bats are ecological superheroes. They feed on agricultural pests and pollinate many popular food crops including bananas, cacao, mangos, peaches and figs
- Did you know that without bats, we wouldn't have tequila? Bats pollinate agave, the primary ingredient in tequila, which blooms at night in the Desert Southwest
- "Bats — Unsung Heroes" highlights several hotspots for bats, including the South Congress bridge in Austin, Texas, and Bracken Cave, near San Antonio, Texas
- About 20 million bats live in Bracken Cave. Each night

they eat 147 tons of insects, most of which are agricultural pests
- Bats save farmers in the U.S. up to $53 billion per year

Bats are sometimes feared and greatly misunderstood. They've been particularly vilified in the wake of the COVID-19 pandemic, as many are falsely pushing the narrative that bats, and the sale of bats and other animals in wet markets, are to blame for the outbreak. We now have proof that's simply not true. For more information, be sure to check out tomorrow's interview with virologist and molecular biologist Jonathan Latham, Ph.D.

In that interview, he presents evidence showing SARS-CoV-2 is highly unlikely to have a natural origin, and stresses that we must not blame the wildlife trade. It's merely a ruse to cover up compelling evidence showing it's a lab-created virus that somehow escaped the confines of the laboratory.

So, please, leave bats alone, both figuratively and literally. Avoid them, don't eat them, don't hold them — and let scientists know we do not want them to harvest them for culturing and manufacturing new viruses.

What many people don't realize is that bats serve an important purpose, both to humans and the environment. Bats are ecological superheroes that pollinate many of our favorite foods. They also feed on agricultural pests that damage food crops, saving farmers hundreds of thousands (if not millions) of dollars each year.

The featured film, "Growing a Greener World: Bats — Unsung Heroes," explores the benefits bats have on our environment, their role in food production, and what some scientists are doing to protect this important species.

The film starts out in San Antonio, Texas, at Bracken Cave, a major tourist attraction that is home to the world's largest bat colony. The cave provides shelter for about 15 to 20

million Mexican free-tailed bats, according to the film. Each night at sunset during the warmer months, the bats gracefully fly out of the cave in masses to begin their nightly hunt.

Bracken Cave was purchased by Bat Conservation International (BCI) in 1991. It now owns nearly 1,500 acres of former ranchland surrounding the cave, which is in the process of being restored to its natural state.

The land lost some of its original plant and animal diversity when it was being utilized for other purposes such as ranching. But thanks to the conservation work done by BCI, the area is now also home to many bird species, including endangered golden-cheeked warblers.[1]

Bats Are the Only True Flying Mammal

In the film, Fran Hutchins, director of Bracken Cave Preserve, reveals that bats are the only true flying mammal. Mexican free-tailed bats weigh just half an ounce, or the equivalent of holding 50 cents in your hand, says Hutchins.

Despite being in the same genetic class as humans, bats are often lumped in with animals like snakes and sharks, some of the creatures we fear the most. But once you start to take a closer look at bats and their unique habits, it’s clear there is nothing to fear about these beneficial animals.

There are many fun facts about bats you may not know. For example, despite what you may have heard, bats are not blind. They can see very well. They also have excellent flying abilities and an impressive range of motion.

Bats can fly up to 50 to 60 miles per hour, and travel distances of up to 30 to 50 miles in radius before returning back to their home. Bats are more maneuverable than birds. They use a combination of echolocation and sense receptors that allow them to easily navigate through the night sky.

Their echolocation abilities work by emitting a sound out of their mouth, which bounces off an object. When it returns, it is received and processed by their ears and other facial features. This echolocation technique is what helps bats hunt for food.

Bats emit sounds slowly and repetitively, as they navigate through the environment. However, when bats home in on an insect, the sound increases in frequency right up until they reach their prey. They then use their wings to snatch up the insect before eating it.

Without Bats, We Wouldn't Have Tequila

Bats as a species are incredibly diverse. There are an estimated 1,400 species of bats worldwide. They live on various parts of the planet and range in size. For example, the Kitti's hog-nosed bat, also called the Bumblebee Bat, weighs less than a penny, making it the world's smallest mammal next to the flying fox, according to the U.S. Department of the Interior.[2]

While bats are expert hunters, they are also important pollinators. Just like birds, butterflies and bees, bats pollinate many important food crops, but because they do so at night under the cover of darkness, they don't get as much recognition.

More than 300 species of food-producing plants depend on bats for pollination. Some of these include guavas, bananas, mangos, figs, dates, cashews and peaches. Bats also pollinate other flowering plants including agave, the key ingredient in tequila.

Without bats, we would not have tequila. Bats are the main pollinator of agave, which blooms at night in Desert Southwest, according to the film. Agave plants are a major food source for bats. Unfortunately, in an effort to maximize

profits, some big-time tequila producers are cutting down agave stalks before they have a chance to flower.

This is a big problem for bats. Luckily, some producers are being a little more responsible in the way they grow agave and produce tequila. They are allowing some of the agave plants to flower so that bats have a food source along their migratory pathway.

Some sustainable tequila producers have even branded their products "bat-friendly." Bat-friendly tequila can be found at various specialty bars and restaurants around the U.S., including San Antonio's Esquire Tavern, which serves a spicy cocktail called the "Batman of Mexico." It's made with Tequila Ocho, which can be found at some U.S. liquor stores for about $45 a bottle.[3]

Austin's South Congress Bridge Is Home to 1.5 Million Bats

The next stop in the film is Austin, Texas. The capital city is best known for its laid-back atmosphere, tasty tacos and its "Keep Austin Weird" slogan. It's also known for its bats, which reside under the South Congress Bridge.

The bridge was constructed using cast-in-place concrete to expedite the construction. Little did they know the design would create tiny spaces underneath the bridge that serve as the perfect bat house.

An estimated 1.5 million Mexican free-tailed bats migrate north to Austin and call the bridge home during the warmer months of March through October.[4] Like they do at the Bracken Cave, millions of bats descend from under the bridge at sunset, swirling in a mesmerizing tornado-like shape.

Mylea Bayless, senior director of Networks & Partnerships Bat Conservation International, says in the film that the bats stay together like a school of fish in order to avoid

predators. They fly downstream along the tree line out to the corn and cotton fields where they primarily feed on agricultural pests. The viewing draws thousands of people who line up along the bridge each night, waiting to watch the bats.

Bats Save Organic Pecan Farm in Texas

While bats get a lot of recognition in some of Texas' largest cities, they are equally as honored in the Texas Hill Country. The featured film visits John Byrd, a pecan orchardist and owner of King's Crossing Farm, an organic farm located in San Saba, Texas.

The 109-acre farm was established by Byrd's grandfather in 1944, who was also one of the founders of the Texas Pecan Growers Association. Texas is one of few states where pecans are indigenous.[5]

Byrd's 1,200 pecan trees are part of the family legacy. But they are also an attraction for pests. In the film, Byrd explains that the biggest pest threat to his pecans is the casebearer moth, which can lay 100 eggs at a time. Each egg makes a little caterpillar that goes into a pecan nut and kills it.

If all 100 eggs are able to successfully make their way into a cluster of pecans, they can kill 100 pecans, says Byrd. That's about 1 pound, which costs about $1.50. So, for every moth, the farm stands to lose $1.50. Byrd uses organic growing methods on his farm,[6] which means pesticides are not an option for dealing with the moths.

Bats Are Nature's Exterminator

"I have 400-year-old pecan trees that have been doing well without chemicals or people, and they produce pecans," he says. "There is a way to do it without pesticides. I want to promote life, not death, in my orchards."

In an effort to deal with the moths naturally, Byrd started building bat houses in hopes of attracting the animals to his orchard. He started out with a small bat house, which was quickly filled with bats. He then built a bat house three times the size as the first. It too filled almost immediately with bats.

Finally, he built one of the largest bat houses available, which can hold up to 30,000 bats. It took a while longer, but it too, eventually became full. Byrd says the large bat house now holds about 20,000 bats. They're doing their job, too, he says. DNA analysis found the bats were in fact eating the casebearer moths. Byrd now has fewer pests and more pecans.

Bats are one of nature's best exterminators. The bats that live in Bracken Cave outside of San Antonio eat an estimated 147 tons of insects per night, most of which are agricultural pests, according to the film. As a result, bats save farmers in the Texas Hill County about $750,000 a year in crop damage and pesticides. In the U.S, bats are estimated to save farmers anywhere from $3.7 billion to $53 billion per year.[7]

Bats Are Threatened Worldwide

Despite their importance, bats worldwide are at risk for a number of reasons including habitat loss, climate change, disease, deforestation and the bushmeat trade.[8] Scientists report a loss of 50% of the world's insects since 1970,[9] a disastrous estimation that's predicted to affect all types of wildlife, including bats.

Another major threat to bats is white-nose syndrome, a fungal disease that eats away the tissue of North American bats. The pathogen gets its name from the appearance of a fuzzy white material that grows on the bats' snout, ears, wings or feet.

The pathogen prefers cold temperatures, which means bats are most susceptible when they are hibernating and their body

temperature is reduced, explains Chris Cornelison, Ph.D., a research assistant professor at Kennesaw State University.

“From a wildlife disease standpoint, we’re experiencing some of the most precipitous, severe-associated declines of wildlife that have ever been recorded,” says Cornelison in the film. “In some of the worst cases, we’ve observed over 99% declines in those populations.”

The good news is that scientists are working hard on solutions. One solution involves the use of naturally occurring VOCs that can be used in conjunction with a nebulizer to produce an aerosol volatilized gas to spray on the bats. This represses the growth of the fungus while they hibernate.

This is sometimes challenging, as bats hibernate in caves that are inaccessible to humans. For example, at the Black Diamond Tunnel in North Georgia, scientists had to develop the infrastructure to mount a nebulizer on a boat in order to send it autonomously into the cave to distribute the antifungal gas.

Want to Help Protect Bats? Here Are Some Things You Can Do

As you can see, bats are incredibly important for maintaining a healthy ecosystem. If you want to help protect bats, one thing you can do is to plant an organic, pesticide-free garden with night-scented flowers. If you are able, it’s also helpful to leave dead and dying trees, as these spaces create perfect roosting sites for bats.[10]

You can also put up a bat house. Click here for information on where to purchase a bat house or build one yourself.

35 Vegetables that Grow in 60 Days or Less

35 Vegetables that Grow in 60 Days or Less

by Brenda of The Well Fed Homestead
April 6, 2020

Sixty-five days. That's how many more days the Virginia governor, Ralph Northam, has said that we need to stay in our homes because of Coronavirus.

I mentioned the other day that the empty grocery store shelves has me wishing we lived on the farm again. Suddenly, I'm researching, "what can we grow—*fast?*" We have seven people to feed, and we don't own thirty acres with multiple animals, dairy cows, and a 50′ x 50′ garden anymore. We certainly don't have enough space to grow everything we would need in a year's time. Still, we can grow *something*. Actually, we can grow quite a few things that will be ready to eat before the quarantine is over—and so can you!

To get food quickly, the variety of the vegetable is a big deal. There may be a difference of twenty or more days between different varieties—so *do* check out the varieties I have listed below.

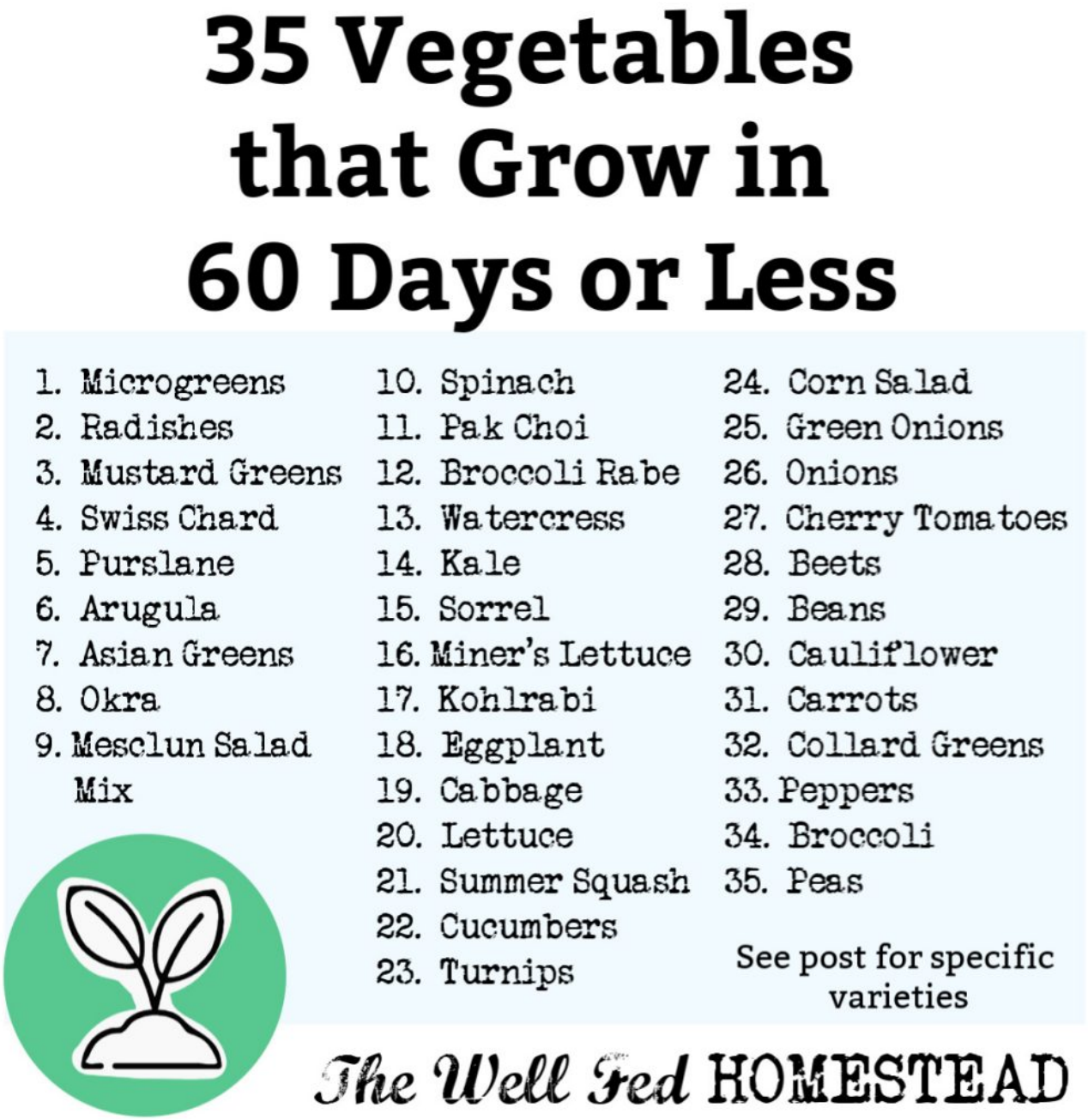
The links below are not affiliate links—that would have been brilliant, but I just wanted to get this information out to you quickly and didn't have an affiliate set up. ? I linked mostly to Territorial Seeds, which is in Oregon.

We visited Territorial Seeds once, when we lived on the farm,

and they were super kind to us. They even gave us several—I think around *thirty* tomato starts for free back then! They deserve the links, and I hope that you give them some business.

The other site I linked to is Burpee. I prefer Territorial, but both sites do a great job stating the dates to harvest, aka dates to maturity and aided in my research. If you can't find these seeds on Territorial or Burpee because they are out of stock for the season, you might also try Baker Creek.

Again, pay attention to the varieties for quick food. Also, if you're consuming vegetables with the fat soluble vitamins (A, D, E and K), make sure you are serving the vegetables with fat. This can be saturated fat from animal protein or a drizzle of olive oil or another oil.



1. Microgreens

Microgreens are really just greens that are harvested early. There are microgreen mixes available, like the following two:

- Microgreens 14-21 days
- Microgreens 14-28 days

Microgreens are the best bet for getting quick food that packs a punch when it comes to nutrition. Don't pull them all the way up, just snip off some of the greens and let them re-grow. Microgreens are tender and can be eaten raw. Create a fancy restaurant environment in your home by serving microgreens

next to a steak!

These microgreen mixes are easy, but you don't need a mix like this. They may contain seeds of arugula, beets, cabbage, pak choi, kholrabi, broccoli, kale and radishes. If you'd like to grow microgreens, simply harvest some of these vegetables after 14-28 days. Leave some growing for later harvests of the full-grown vegetable as well. The vitamins and nutrients in your microgreens will depend on the type.

2. Radishes

I don't love radishes, but they are one of the fastest growing vegetables in the garden! The variety of radish does not matter as much as some of the other vegetables, because almost all radishes grow quickly. Still, you can have Early Scarlet Globe radishes as soon as twenty days from today—and Dragon radishes in forty days. Take your pick from the list below, or others that you find:

- Radish, Early Scarlet Globe 20-28 days
- Radish, Cherry Belle 22 days
- Radish, Fire N' Ice, 25 days
- Radish, Roxanne 25 days
- Radish, French Breakfast 25-30 days
- Radish, Sora 26 days
- Radish, Royal Purple 33-35 days
- Radish, Dragon 40 days

Did you know that you can roast radishes like potatoes? You might give it a try, since potatoes take quite a bit longer to grow and harvest! Radishes are also packed with more vitamins than potatoes. They contain vitamins B6 and C as well as the fat-soluble vitamins A, E and K. Mashed radishes, anyone?

3. Mustard Greens

You've heard of the tiny mustard seed, but did you know that you can eat the greens? Mustard greens can be eaten fresh or sautéed. They are packed with vitamins A, C, K, folate and the

mineral manganese. Mustard greens can be grown quickly, and these varieties are good choices:

- Mustard Greens 21 days
- Mustard, Florida Broad Leaf 45 days

Mustard greens have a spicy, peppery flavor that is sometimes described as “grown up.” If you don’t consider your palate to be grown up, you may not enjoy them.

4. Swiss Chard

Pay attention to the type of swiss chard you choose, because some may take longer to grow. Swiss chard is delicious sautéed in olive oil with garlic and then finished off by simmering in some broth, salt and pepper. When you sauté swiss chard it will shrink quite a bit, so plan for more than you think you need. Swiss chard contains the vitamins A, C and E as well as the minerals calcium, iron, magnesium, phosphorus and potassium.

- Swiss Chard, Fire Fresh 23-35 days
- Swiss Chard, Bright Lights 60 days

Note that like microgreens, you can harvest swiss chard early. Simply trim some of the greens off to eat and then let the plant re-grow.

5. Purslane

Purslane is a tender green that can be eaten raw or cooked. It is similar to spinach. Notice the twenty-four day difference between the two purslane varieties listed below:

- Purslane, Goldgelber 26 days
- Purslane, Golden 50 days

Purslane contains the vitamins C, B, niacin, riboflavin, pyridoxine and the highest vitamin A level of any leafy green. Vitamin A is a fat-soluble vitamin and you can get too much of it, so don’t over-eat purslane. ?

6. Arugula

Arugula is one of my favorite vegetables! I have an Arugula Avocado Salad recipe and an Arugula Salad with Honey Wine Dressing on this site. I enjoy eating raw arugula on top of a fried egg, a lightly cooked tomato slice and drizzling the whole thing with olive oil. My kids don't love it as much as I do, but that's okay. They'll grow up. ?

You can treat arugula like a microgreen and trim greens off of it as soon as they appear to be edible. Or, wait 28 to 35 days for the full grown version, using one of these varieties:

- Arugula 28 days
- Arugula, Garden Tangy 30-35 days

Arugula contains vitamin C, folate, beta carotene, magnesium and fat soluble vitamin K. Eat raw or cooked, though raw is most preferable.

7. Asian Greens

Asian greens are a hybrid and are tender like lettuce but flavorful like collard greens. They are a good source of vitamins A and C and can be eaten raw or cooked.

- Asian Greens 30 days

8. Okra

The first time I heard of okra was at a Peruvian restaurant in Portland, OR, Andina. Fried okra was presented an alternative for bread, and they served it with several dipping sauces. Personally, okra didn't make me feel very well. It's a starchy food and it contains fructans, which are irritating to some people's guts.

Lets talk about the good stuff in okra. It contains more minerals than any of the above listed foods, including calcium, copper, zinc, magnesium, manganese, phosphorus, potassium, and the vitamins A, C, K, B6 as well as folate,

niacin, riboflavin and thiamin. One cup of okra contains 1.9 grams of protein.

Pay attention to the variety you choose, as the varieties listed here will either be ready in thirty days or fifty:

- Okra, Candle Fire 30 days
- Okra, Jambalaya 50 days

The diet Trim Healthy Mama uses okra in a variety of ways, including in smoothies.

9. Mesclun Salad Mix

Mesclun is really just a mix of a variety of lettuces that are harvested before full maturity. You'll see mesclun mixes in plastic clamshells at the grocery store. The nice thing about growing your own is that you get to choose what's in it. The vitamins and minerals in your mesclun mix will depend on the greens it includes. In just thirty days, you can be eating home-grown salad!

- Salad Mix, Mesclun 30 days

10. Spinach

The spinach variety you grow will determine the length of time it takes to grow. It could be a difference of twenty days, so choose wisely.

- Spinach, Baby 30-40 days
- Spinach, Palco 38 days
- Spinach, Corvair 40 days
- Spinach, Olympia 45 days
- New Zealand Spinach 50 days
- Spinach, Bloomsdale Savoy 50 days

Spinach, with an exception of canned spinach, is amazing. I grew up with canned, microwaved spinach (like Popeye!), as I imagine a lot of kids in the 80's and 90's did. I'm not sure if baby spinach was a "thing" then? I didn't know that fresh

spinach, sautéed in oil with garlic or shallots could be so amazing. It's also good for you! Spinach contains the vitamins B6, B9, folate, C, E, K, carotenoids and the minerals calcium, magnesium, iron and potassium.

11. Pac Choi

Pac Choi is a little version of Bok Choy, a member of the cabbage family. I use it in a stir fry with onion or green onion, garlic, ginger, carrots, coconut aminos and a sweetener like honey. You can other veggies as well, of course. Pac Choi can be harvested between thirty and fifty days of planting the seed and tending to it. Pac Choi contains vitamins A, C, K, B6, riboflavin, folate, thiamin, niacin and the minerals phosphorus, calcium, magnesium, manganese iron and potassium. Choose from the following varieties:

- Pac Choi, Violetta 30-50 days
- Pac Choi, Yuushou 36 days
- Pac Choi, Bopak 40 days
- Pac Choi, Ching Chiang 40 days
- Pac Choi, Joi Choi 45 days

12. Broccoli Rabe

If you've never had broccoli rabe, also spelled broccoli rabb, you've been missing out! It's tender and has a milder flavor than broccoli. It also looks elegant on a plate! Serve it with your steak, microgreens and mashed radishes. ? Choose from varieties like these:

- Broccoli Raabb, Sorento 40 days
- Broccoli Raab 50-60 days

Broccoli rabe contains vitamins A, C, K, folate and the minerals calcium and iron.

13. Watercress

Watercress is from the same family as broccoli, kale and cabbage—the brassicas. It contains the vitamins A, C, K and

the minerals calcium and manganese. It’s known as a super food because it contains 100% of the daily recommended amount for vitamin K.

After removing the thick stems, you can eat watercress in a salad, sauté it or add it to a soup. It has a bit of a spicy, peppery flavor. Note that the varieties listed below are harvested at dates twenty days apart:

- Cress, Avona 40 days
- Watercress 60 days

14. Kale

Kale is a nutritional powerhouse and contains vitamins A, C, K, B6, thiamin, folate, riboflavin and the minerals iron, phosphorus, magnesium, manganese, calcium and potassium.

You can eat kale in salads, soups, or as kale chips. Wait until it’s full-grown at forty to fifty-five days, or, harvest young, as a microgreen.

- Kale, Fizz 40 days
- Kale, Amara Ethiopian 40 days
- Kale, Dwarf Green Cultured 45 days
- Kale, Bolshoi 55 days

15. Sorrel

Sorrel is related to buckwheat and rhubarb. It has a sour, lemony flavor. Amazingly, sorrel is traditionally used to reduce inflammation of the respiratory tract. It may be a good time, indeed, to grow, harvest and consume sorrel. It’s also a diuretic. If you are prone to kidney stones, eat limited quantities of sorrel. While sorrel can be eaten raw, it is typically cooked into soups and stews. The varieties listed below have a twenty-day difference in time to maturity.

- Sorrel, Red Veined 40 days
- Sorrel, French 60 days

Sorrel contains vitamins A, C and folate.

16. Miner's Lettuce

Miner's lettuce is an edible weed. You'll want to grow it intentionally because it's a fast-grower and contains vitamins A, C and the mineral iron. Eat miner's lettuce raw in salads or as a garnish over protein.

- Miner's Lettuce 42 days

17. Kohlrabi

It's funny that kohlrabi makes me think of Asian food, because it's called the "German Turnip." It contains vitamins C, B6, thiamin, folate, and the minerals copper, potassium, manganese, magnesium and phosphorus. It can be eaten raw in salads and slaws, or it can be steamed, sautéed or added to soups.

- Kohlrabi, Beas 42 days
- Kohlrabi, Konan 42 days

18. Eggplant

Eggplant, typically eaten cooked, contains vitamins C, K, folate and the minerals potassium and manganese. Have you ever made a homemade Ratatouille? You'll need some eggplant! Note that the fastest growing variety below is a container-garden "baby" plant.

- Eggplant, Patio Baby 45 days
- Eggplant 60-75 days

19. Cabbage

Most cabbage varieties take around sixty to eighty-five days to reach maturity. One, Tundra, takes one hundred eighty to two hundred and twenty days! Catrina is the only cabbage variety I could find that can be harvested in less than sixty days:

Cabbage, Catarina 45 days

Cabbage can be eaten raw or cooked. I like this Cabbage and Meatball Soup and this BBQ Beef and Cabbage. I also cook cabbage in good-quality butter and serve it as a side that way. Just the other day, I shared a simple coleslaw recipe on Instagram and Facebook. Cabbage contains vitamin B6, folate and vitamin K, as well as manganese, magnesium, calcium and potassium.

20. Lettuce

One of the benefits of growing your own lettuce is that you get to experience what tender greens taste like. These greens are too fragile to transport and sell in a grocery store, so you can only enjoy them by growing them yourself or purchasing them from a farmer's market.

Depending on the variety, lettuce might contain the vitamins A, C, folic acid and the minerals iron, calcium and potassium. Choose a variety that takes forty-five to fifty-six days to mature, and feel free to harvest sooner, like a microgreen.

- Lettuce, Salad Bowl 45 days
- Lettuce, Buttercrunch 48 days
- Summer Squash, Cavili 48 days
- Lettuce, Red Salad Bowl 50 days
- Lettuce, Ezrilla 52 days
- Lettuce, Continuity 56 days

21. Summer Squash

There are a couple of summer squash varieties that can be harvested within sixty days. Many take longer, approximately seventy-five days, so make sure to choose one of the types below:

- Summer Squash, Cash Machine 45 days
- Summer Squash, Black Beauty 60 days

The different varieties contain vitamins A, C, B6, folate, riboflavin and the minerals magnesium, phosphorus and potassium. Eat raw or cooked, and make muffins, a pasta alternative and even zucchini lasagna out of this versatile food!

22. Cucumbers

Cucumbers often take longer than sixty days, but there are a few varieties to choose from that can be eaten between forty-five and fifty-two days after planting. Cucumbers are typically eaten raw or pickled. Try this amazing Cucumber Tomato Salad.

- Cucumbers, Bush Pickle 45-50 days
- Cucumbers, Alibi 50 days
- Cucumbers, Socrates 52 days

Cucumbers are packed with the mineral potassium and also have small amounts of the vitamins A, C, K and the minerals magnesium and manganese.

23. Turnips

Turnips are typically eaten cooked in soups and stews. They contain several vitamins, including A, C, K, E, B2, B6, folate and the minerals iron, magnesium, manganese, calcium, copper and phosphorus. Try the following varieties for a quick harvest:

- Turnips, Hakurei 46 days
- Turnips, Purple Top White Globe 55 days

24. Corn Salad

If you've never tried corn salad, you're probably picturing yellow corn with black beans and pico de gallo, or quite possibly, corn with some tomatoes, greens and feta cheese on top. ? Corn salad is actually a leafy vegetable with a nutty flavor. It contains vitamins A, C, B6 and the minerals magnesium, potassium and iron. Wait fifty days for it to reach

maturity or treat it like a microgreen and harvest sooner.

- Corn Salad, Vit 50 days

25. Green Onions

You may consider green onions a simple garnish, but they contain quite a few nutrients and shouldn't be overlooked. They contain the vitamins A, C, K, B6, thiamin, folate and the minerals magnesium, manganese, phosphorus, zinc, copper, calcium, iron, and potassium. Use the following variety in order to eat within fifty days. Other types take sixty five days or longer.

- Green Onions, Green Tide 50 days

26. Onions

Onions are such a staple vegetable! Most varieties take well over sixty days, and the beloved Walla Walla Onion takes a whopping one hundred and twenty five days to grow! The song "Have Patience" from my old Music Machine record is suddenly going through my head! The only variety I could find that takes less than sixty days is this one:

- Onions, Pacific Pearl 50 days

Onions contain vitamins C, B6, B9 and the mineral potassium. Grow in succession in order to harvest onions regularly.

27. Cherry Tomatoes

You won't be able to grow large-variety tomatoes in less than sixty days. Typically, they take eighty-five days or longer to mature. Some varieties of cherry tomatoes are a different story, though. I recommend the following types:

- Tomatoes, Cherry, Bartelly 50 days
- Tomatoes, Cherry, Cherry Buzz 55 days
- Tomato, Gold Nugget 60 days

Tomatoes contain the vitamins A, C, K and the mineral

potassium.

28. Beets

Beets are a powerhouse food! Seriously, beet juice is listed as one of the recommendations for nearly every ailment in Signs and Symptoms from a Functional Perspective! Beets contain vitamin A, folate, and the minerals manganese, iron and potassium. Eat them raw, juice them or cook them. I personally think they taste like dirt, so my solution is to juice them and drink it quickly in a shot glass. However you get it down, make sure you do it! Eat (or drink!) your beets! Try the following variety for an early harvest. Otherwise, you will need to wait sixty-five days or longer for your shot of dirt juice. I mean beet juice. ?

- Beets, Boro 51 days

29. Beans

Beans often take sixty-five or even up to ninety-five days to grow. The following varieties are exceptions:

- Bush Beans, Bountiful 50-55 days
- Snap Bean, Antigua 56 days
- Beans, Borsalino 60 days
- Pole Beans, Carminat 60-65 days

Depending on the variety, beans may contain vitamins A, K, folate and the minerals calcium, iron, magnesium, manganese and phosphorus.

30. Cauliflower

Cauliflower can be eaten raw or used as a substitute for potatoes in potato salad or mashed potatoes. You can also cut cauliflower finely and use it in place of rice for a low-carb dish. This Chicken, Carrot and Cauliflower Soup is perfect for the GAPS Diet, Paleo or Whole 30. Cauliflower contains the vitamins C and K and the minerals calcium, potassium and magnesium. Most varieties will take sixty to one hundred and

ten days to reach maturity, but these types can be harvested sooner:

- Cauliflower, Snow Crown 50-60 days
- Cauliflower, Fioretto 70 60-65 days

31. Carrots

Almost any variety of carrot can be grown and simply harvested early, as a "baby" carrot. The following varieties reach their full size in less than sixty days:

- Carrots, Little Finger 55 days
- Carrots, Caracas 57 days

Snack on carrots, roast them, add them to a salad, make this Carrot Raisin Salad, or make these amazing Grain-Free Carrot Muffins. Carrots contain beta carotene, biotin, vitamin K1, vitamin B6, and potassium.

32. Collard Greens

Eat your greens! No, truly—collard greens may not be a favorite food, but they are certainly *good for you!* They contain vitamins A, C, E, K and folate, as well as the minerals calcium, iron, magnesium, phosphorus, potassium *and* zinc. That's a mouth full! Fill your mouth with collard greens in the form of a raw or cooked dish. Either way, make sure to choose one of the following varieties in order to harvest them in sixty days or less.

- Collard Greens, Flash 55 days
- Collard Greens, Campion 60 days

33. Peppers

Like tomatoes, the bigger version of peppers will take longer than sixty days. Typically, bell peppers take sixty-five to eighty-five days to grow. While you can eat peppers green, technically, they aren't ripe until they are red, orange or yellow. They will be sweeter and more nutrient dense when they

are ripe.

Peppers contain vitamins A, B6, E, C, folate and K1. They also contain the mineral potassium. Eat raw or cooked, just make sure to choose one of the following varieties in order to harvest within sixty days.

- Pepper, Miniature Red Bell 55 days
- Pepper, Miniature Yellow Bell 55 days
- Pepper, Sprinter 60 days

34. Broccoli

If broccoli rabe wasn't enough, you can also harvest full-grown regular broccoli within fifty-six days! Eat raw or cooked in any recipe you like. We often make stir-fries with broccoli or add it to a homemade chicken Alfredo. Broccoli contains the vitamins C, K, folate and the mineral potassium. Choose the following variety, or your broccoli will take seventy to eighty-five days to reach maturity.

- Broccoli, Aspabroc 56 days

35. Peas

Peas can be harvested right about at the sixty day mark. Sugar snap peas are amazing raw and right off the vine. They are also packed with nutrients. They contain the vitamins A, C, K, thiamin and folate. They also contain the minerals phosphorus, iron and manganese. Most varieties take sixty-one to eighty-five days to reach maturity, so choose from the following in order to harvest within sixty days.

- Peas, Alaska Early 57 days
- Peas, Cascadia 60 days
- Peas, Maestro 60 days
- Peas in a Pot 60-65 days

Dandelion – More than Just a Weed

by Kathy Keeler
Source

May 3, 2014 Loveland, IMG 8544

Dandelions, *Taraxacum officinale* (sunflower family, Asteraceae) are perhaps the most widely recognized U. S. weed. Huge amounts of money and time are spent killing dandelions.

No one knows why the scientific name is *Taraxacum*. In 1600 pharmacists called it *Taraxacon,* but whether that word is based on the Arabic words *tarachakum* "wild cherry," or *tarakhshaqun* "wild chickory" or *tarashqun* "bitter herb" or the Greek *taraxis,* an eye disorder, *tarassen* or *tarassos* "disorder," *or*

trogimon,“edible” is unknown. The species epithet, *officinalis*, is Latin for “of the shop,” that is, this is the dandelion recommended by the pharmacist.

Dandelions are pretty widely called dandelion, based on *dent de lion*, lion’s tooth. That likeness, however, has been proposed as alluding to the “teeth” of the leaf, the flower’s raggedness, or canine tooth look of the long taproot. Alternate common names include piss-a-bed (and variations) because it is a diuretic, blowball, puffball, and wild endive.

Dandelions haven’t always been hated. They were intentionally brought to the United States as a food plant. The leaves, roots, and flowers are edible.

Dandelions have a sharp, strong taste which can be quite bitter. Modern people are put off, but when dandelions were carried around the world, three or four hundred years ago, most vegetables were less pleasant-tasting than today.

The leaves can be eaten raw or cooked. Small leaves and spring leaves are less bitter, but you can also buy relatively mild cultivated dandelions. Dandelion roots, small and fibrous compared to most root vegetables are nevertheless tasty. Dried and ground, they have been used to make a coffee substitute. Dandelion wine is made from the flowers. To avoid bitterness, use just the yellow petals, nothing green. When I was making homemade wines, dandelion was one of the best. Dandelion flowers can also be fried or tossed into a salad.

Raw dandelion leaves are diuretic, promoting urination. They have been used medicinally for centuries and the list of folk remedies using dandelions is long. Germany’s Commission E, dedicated to checking the claims made for herbs, approved dandelions for all the following: indigestion, urinary infections, liver and gallbladder complaints and loss of appetite, so this weed is an effective medicine by modern standards.

Note: DO NOT eat dandelions unless you KNOW they are free of herbicides, pesticides, or other contaminants.

Dandelions went out of fashion as a food, perhaps about 1900. Lettuce, cabbage, spinach, and chard became the leafy vegetables of choice. At about the same time, people turned to pharmacies for their medicines and stopped growing their own. Abandoned by gardeners, dandelions had to make it on their own. And they did! They are deeply rooted, rapidly spreading plants known to just about everyone and now considered weeds.

Loveland house

One reason dandelions are so successful is that they are apomictic. That means that the seeds are made asexually. In the flower, the tissue closes around one of the cells, the "parachute" forms and the new seed is ready to go. No need to have another plant anywhere nearby, let alone wait for a pollinator. Very efficient. Apomixis does make all the seeds genetically identical to the parent plant. That lack of diversity could make the plant unable to adapt to changes. However, dandelions fly between one person's well-watered, fertilized yard to the next. Lack of diversity has not been a problem so far.

Reproduction in dandelions does not need a pretty flower. Why is it there? Maybe it somehow contributes to reproduction. Or it could be that the century they have been aggressive weeds

hasn’t been long enough for mutation and selection to reduce the flower. Because of the flower, dandelions sometimes cross with related species. Whatever the explanation, dandelion flowers attract many bees and other pollinators.

Dandelions are both relatively tolerant of cold and capable of fast reproduction. In both Nebraska and Colorado, I have looked to see if I can find some plant flowering every month of the year. January is the hardest, but both in eastern, Nebraska and northern Colorado, I have seen dandelions blooming during the rare January warm spell. That is probably another part of their success as a weed across North America.

Common dandelions can be found all over the world. The places you won’t find them are deserts and the tropics. The first ones in North America were recorded in New England is 1672 and in Canada in 1821. Today they grow in every U.S. state and Canadian province. And in places as remote from Europe as New Zealand and the tip of South America.

Edible and medicinal, dandelions are a resource that people consider weeds.

New Zealand; japan New Zealand 2009

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How a Single Weed Restored a Forest

Regenerating New Zealand: Using nature to restore forests

by Dr. Joseph Mercola
September 7, 2019
Source

STORY AT-A-GLANCE

- The documentary, “Fools and Dreamers: Regenerating a Native Forest,” features botanist and nature buff Hugh Wilson and his work to regenerate 1,500 hectares (3,706 acres) of native forest in New Zealand
- The film shows how conservationists used the power of nature to regenerate native forests
- Under the theory of “minimal interference,” Wilson and others embraced the presence of an exotic native “weed” called gorse to turn pastureland into a thriving forest
- Gorse, which is hated and considered a nuisance by pastural farmers, helped regenerate forests by providing a canopy for native forest plants to grow and thrive
- Restoring forests provides many benefits, including an increase in native vegetation and biodiversity, improved water flow and carbon sequestration, which help fight climate change by capturing excess atmospheric carbon and storing it in the soil

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Imagine a place in nature that’s thriving with life, where native plants and wildlife exist in abundance, and the crystal-clear flowing streams are clean enough to drink. Welcome to the Hinewai Nature Reserve & Wildlife Sanctuary, an ecological restoration project located in New Zealand’s Banks Peninsula that’s open for the public to visit and enjoy.

A new documentary titled, “Fools & Dreamers: Regenerating a Native Forest,” produced by Happen Films, features the project and one of its key supporters, botanist, nature buff and native New Zealander, Hugh Wilson, who serves as the day-to-day manager of the reserve.

The Hinewai Reserve aims to promote the natural regeneration of native vegetation and wildlife on about 1,500 hectares (3,706 acres) of land in the south-eastern corner of Banks

Peninsula on the South Island's east coast.

In its natural state, the region was covered by thick, healthy forests ripe in diversity. But over time, the forest was cleared and nearly completely destroyed by human settlers from Polynesia and Europe. By 1990, less than 1 percent of the old-growth forest was left, according to the film.

From a young age, Wilson, who grew up in the area, took a liking to plants and wildlife, particularly bird life. He dreamed about what it would be like to restore or regenerate the forests in the Banks Peninsula. His dream became reality when he met Maurice White, who had established a fund to purchase land for conservation.

Native Forest Trust purchases ground to regenerate the forest

When asked if he wanted to be involved, Wilson quickly agreed, and the pair began searching for land to buy. Due to his familiarity with the area, Wilson suggested a piece of land that was a little over 100 hectares (247 acres) in size and was an original part of Hinewai. The land was ideal because it was reasonable in size, but not too big, and it had old-growth forest, which meant it would be easier to track the results of a regeneration program.

In September 1987, 109 hectares (269 acres) were purchased by the Maurice White Native Forest Trust. Over time, the conservation project expanded to about 1,500 hectares (3,706 acres) with the purchase of Otāñerito Station in 1991, as well as several other additions.

From the very beginning, the idea was to harness the power of Mother Nature to speed up the regeneration of forest and biodiversity – and to make the restoration project open to the public so people could come and enjoy nature in its purest form.

Using a "minimal interference" approach, Wilson had this idea

to use the exotic plant gorse to regenerate native forest plants and trees. Once word of his method spread, it drew quite a bit of skepticism and doubt from the locals.

Regenerating landscapes with a pesky weed

Gorse is considered one of New Zealand's most pesky weeds. It first originated in Europe but was introduced to New Zealand as a hedge species.[1] Characterized by its yellow flowers and sharp spiny leaves, Gorse can grow from about 6 to 9 feet tall. It matures and grows quickly, and is highly resilient to herbicides. It's also tolerant of hot and cold temperatures, high-to-low rainfall and wind and salt.[2]

Gorse became hated by pastural farmers because it reduced the area available for grazing livestock on pasture land. Most people go to extreme lengths to fight and kill gorse. But not Wilson. He understood that the "weed" had its benefits, too. "Nothing is black and white," said Wilson in the film.

Gorse is an opportunistic plant that takes advantage of clear ground and forest climates. But it must have full sunlight. It can't survive in the shade. As soon as it's shaded, it's dead, he says.

Gorse grows fast in full sunlight, which allows other plants to grow underneath it, such as shade-tolerant trees. This is how gorse provides the perfect canopy for native forest plants to grow and thrive. It's also an excellent nitrogen fixer, which means it fertilizers the soil, and in turn, promotes new plant life. Another benefit to gorse is that it can stop steep hillsides from eroding due to its ability to spread and cover the ground in dense vegetation.

Returning to its roots

Within a short decade, Wilson has made significant progress in regenerating native forests in the Hinewai Reserve. A local

farmer interviewed in the film said:

> *"I initially thought that the progression from gorse to native trees would take 50 years. But in 10 years you can see it. You can see them coming up through the gorse, and in areas I didn't know there would be native growth."*

Thanks to the efforts of Wilson and the restoration project, the Hinewai Reserve has returned to its roots. The forest has 47 waterfalls that never dry up, and is home to trees that are centuries old. The reserve hosts 60 different species of fern, including six species of tree fern.

It also supports many native birds such as bellbird, brown creeper and the grey warbler, just to name a few. It's home to green and brown geckos, Australian frogs, native eels and fish such as galaxiids, torrentfish and bullies. The coastline nearby supports more diversity including seabirds, marine mammals and fish.[3]

Many people have asked Wilson if he himself helped replant the forest bed. In the film, he chuckles and explains that there's no way to physically do it because of the rough terrain and vast size of the land. "Nature plants the forest bed, in ecologically appropriate and scientifically interesting ways," he says.

Local hero

The local community was initially skeptical of Wilson and his idea to use gorse to regrow native forest trees and plants. But he's proved that nature knows best. Wilson is now regarded as a hero both locally and abroad.

Not only do the locals support the work being done at Hinewai, but they have also started to change the way they think about food and farming. Wilson has shown that instead of trying to farm all land intensively – especially land that's not all

that productive in terms of producing food – it's beneficial to set some aside and let nature take over. "Let's stop trying to farm that land and let it regenerate on its own and act as one big carbon sink," says Wilson.

The end result is a surge in biodiversity – plants, animals, insects – which support a healthier environment, and healthier humans. Regenerating native forests is also beneficial for the climate, as they act as giant carbon sinks that help capture and store excess atmospheric carbon in the soil.

Reducing our dependence on fossil fuels

But regenerating native forests and other wildlife areas isn't enough if we want to solve climate change, says Wilson. We must also significantly reduce the use of fossil fuels, he says, adding:

> *"The forest here alone might save us from global warming because a lot of the sequestered carbon is locked up in fossil fuels. But even covering every inch of dry land in the world with forest wouldn't sequester enough if we keep on burning the fossil fuels that have been sequestered for millions of years.*

> *"So, forest is definitely part of the solution, but not the whole part. We have to change the way we use energy, and in a big way. We have to do it really quickly or we're going to be really stuck.*

> *"No one person can solve these massive problems. All you can do and all the universe can expect you to do is to do your best. Your best can be all sorts of different scales. We're doing our best here in terms of human life and the ecology and biodiversity and climate and other species sharing the planet with us. All those things."*

Wilson practices what he preaches. He rides his bicycle most places and walks two hours to and from work every day. He also lives in a house with no electricity and uses water heated by solar energy. His primary mode of communication is through a landline telephone.

The work at Hinewai Reserve is made possible in part due to the donations of generous supporters from all over the world. Find out how to support the reserve at FoolsandDreamers.com.

The big takeaway of the featured film is to encourage people to do their part in protecting the planet. That could mean planting for the birds and bees and putting a few flowers in your garden. It could mean riding your bicycle more, using solar energy or growing your own food. For tips on how to grow your own garden using permaculture or regenerative agriculture practices, click here.

USDA Fails: New Report Puts Farmers Back in Charge of Organic Certification

Source: The Cornucopia Institute

March 14, 2019

USDA Has "Willfully Failed" on Congressional Mandate to Prevent Fraud

When farmers lobbied Congress to pass the Organic Foods Production Act in 1990, their intention was to create a level playing field in the market and to affirm the credibility of organic labeling in the eyes of consumers. Unfortunately, according to a newly released report by The Cornucopia Institute, the USDA's poor oversight of federally accredited third-party certifiers has paved the way for illegal output from "factory farms" that now dominate the $50 billion organic market basket.

Prior to 2002 when federal regulations kicked in, a hodgepodge of state laws and dozens of independently owned certifiers created their own organic standards. Although Congress intended the enforcement of uniform national regulations, a handful of the largest certifiers have allowed livestock factories producing dubious milk and eggs and hydroponic, soil-less indoor farming to illegally squeeze out legitimate family scale organic farmers and ranchers.

In addition to Cornucopia's investigative analysis, the nonprofit farm policy research group also released a guide rating all 45 domestic certifiers on their adherence to the "spirit and letter of the organic law" as gauged by the most prominent allegations of malfeasance currently facing the organic industry.

"This might be the most provocative project we have worked on during our 15-year history," said Mark A. Kastel, a Cornucopia founder and its current Executive Director. "Make no mistake about it, farmers will be empowered to disrupt the revenue streams of some of the largest and most powerful certifiers in the organic industry by switching to truly ethical alternatives."

Cornucopia alleges that many of the certifiers established by

farmers, some in existence since the 1970s and 80s, have morphed from nonprofits dedicated to helping promote environmental animal husbandry and the economic justice benefits of organic farming into multimillion-dollar corporations more interested in pursuing multibillion-dollar corporate agribusinesses.

The report focuses on three hot button issues in organics:

- Milk produced on giant industrial dairies, managing 2,000-20,000 animals each and pushing them for high production resulting in short lives and nutritionally deficient milk. Instead of grazing on pasture as legally required, these cows spend most of their lives in filthy feedlots;
- Industrial-scale, primarily conventional, egg producers housing as many as 200,000 birds in a single building with minuscule enclosed porches substituting for federally-mandated access to the outdoors; and
- Multinational agribusinesses producing soil-less, hydroponic fruits and vegetables in the desert Southwest or importing them from Mexico, Canada, and Europe, despite USDA standards that clearly call for careful soil stewardship that results in the superior flavor and nutrition of authentic, organically-produced produce.

An "organic" hydroponic operation: 60 acres under glass
Certified by QAI

"For the first time, farmers will be able to invest their hard-earned money with certifiers based on their dedication to maintaining a fair and balanced playing field in the competitive market for organic food," said Marie Burcham, a

Cornucopia attorney and policy analyst who helped write the report. “Consumers will also be better able to judge whether food products meet their expectations, based on which certifier is listed on the package.”

Federal law requires that manufacturers and distributors of certified products that prominently display the word “organic” and/or the USDA organic seal specify on their packaging which certifier has audited their supply chain and manufacturing process. This facilitates wholesale buyers’ and consumers’ use of Cornucopia’s certifier ratings.

A number of the largest certifiers, many affiliated with the powerful industry lobby group the Organic Trade Association, promoted a boycott of Cornucopia’s research and sent preemptive, damage-control letters to their farmer-clients. One organic farmer receiving such a letter from his private certifier, Pennsylvania Certified Organic (PCO), was Neal Laferriere of West Virginia.

“Why didn’t my certifier just respond to the [Cornucopia] survey? What don’t they want me to know?” asked Laferriere.

“Subversion tactics aren’t going to work,” he said. “Farmers want answers. Certifiers are the gatekeepers to organic production. We want to know who and what they’re letting through the door.”

In addition to surveys signed by officers of the certifiers, The Cornucopia Institute’s ratings depended on the USDA organic database, aerial photography, satellite imagery, and documents secured through the Freedom of Information Act.

“You can run but you can’t hide,” said Kastel. “Congress intended this to be a transparent process and we aim to shed sunlight on the cozy relationship between organic scofflaws and the certifiers they are paying.”

Farmers, and their customers who want to invest in truly

organic food, might want to do their homework.

“That’s not what Congress had in mind when they handed over the reins of the rapidly growing organic industry to USDA regulators,” said Kastel. “But the reality is, sadly typical in Washington, the regulators have conspired with the regulated to place profits over integrity and it’s time for organic stakeholders to regain control.”

MORE:

Pam Smith, a former board member of Florida Organic Growers (FOG) who resigned in protest recently because of what she perceived to be a tenor change in the organization, told the Washington Post, “It’s a constant fight on the national level to keep the spirit of organics alive, that the earth is as important as the people eating the food.”

“I started feeling like the [FOG] director himself wanted to make more money. There’s more money in the certification than in the farming itself, especially if you’re no longer concerned about small family farms. It’s way easier to certify the large ones.”

FOG’s former executive director, who just left the organization, was a long time board member of the Organic Trade Association (OTA).

“Although we did not rate certifiers based on their membership status in the industry’s preeminent lobby group, The Organic Trade Association, the pattern illustrated on our scorecard is pretty revealing,” said Cornucopia’s Kastel.

Of the bottom-ranked certifiers, categorized “Documented Unethical Behavior,” 53% are OTA members, some making substantial contributions over and above their base membership fees. In contrast only 9% of the balance of certifiers rated as fair to exemplary hold OTA memberships.

The Cornucopia Institute has been a longtime critic of what it calls a “cozy” relationship between the certifiers and USDA regulators charged with overseeing their conduct.

Cornucopia filed two ethics complaints regarding conflicts of interest against the National Organic Program’s (NOP) former director, Miles McEvoy, who had previously run a certifying agency himself. McEvoy “waltzed through Washington’s revolving door,” going to work for the country’s largest certifier, CCOF. More recently the former federal bureaucrat accepted a consulting position with the OTA, focusing on helping the industry trade and lobbying group ferret out fraud in the industry –a problem that had soared while he was in charge at the NOP, despite McEvoy’s long assertion about the rigor of the agency’s oversight.

“You don’t need to take the word of The Cornucopia Institute on the inadequacy of the accreditation process. The program has been the subject of critical reviews by the USDA’s Office of the Inspector General with no discernible changes in the NOP’s approach,” said Burcham.

In their most recent audit, the OIG stated, “…our interviews with six certifying agents disclosed that three of the six allowed organic herds to continue to be transitioned and producers to add cattle to organic herds while the remaining three do not allow the additional conversion of conventional cattle to organic status.”

“The passage above illustrates one of the criterion we used to separate the ethical certifiers from others that are all-too-accommodating to factory farm interests in organics. The USDA should not allow a free-for-all where certifiers create their own rules,” Burcham added.

Other examples of corruption by major certifiers that Cornucopia cited included Quality Assurance International (QAI) approving major pharmaceutical companies, like Parke-

Davis and Abbott Laboratories, adding a gimmicky, genetically mutated DHA oil derived from algae in certified organic infant formula even though the material hadn't gone through the legally-required review by the National Organic Standards Board to assure its safety.

"Not only was this accommodating certifier sidestepping legal requirements for prior review and approval of the product by the NOSB," said Kastel, "the oil is extracted from the biomass of algae using hexane, a volatile solvent that is a byproduct of gasoline refinement and specifically banned in organic production."

Along with scorecards ranking dairy products, eggs, soy foods, breakfast cereals, and more on their adherence to fundamental organic philosophy and legal requirements, Cornucopia describes the Certifier Guide as another tool families can use to purchase the safest and most nutritious food when paying premiums for organics.

Domestic USDA Accredited Certifiers

[ABO] A Bee Organic; [ASCO] Agricultural Services Certified Organic; [AI] Americert International; [BARO] Basin and Range Organics; [BOC] Baystate Organic Certifiers; [CCOF] CCOF Certification Services, LLC; [CU] Clemson University; [CDA] Colorado Department of Agriculture; [ECO ICO] ECOCERT ICO; [GCIA] Georgia Crop Improvement Association, Inc.; [GLO] Global Culture; [GOA] Global Organic Alliance, Inc.; [ISDA] Idaho State Department Of Agriculture; [ICS] International Certification Services, Inc.; [IDALS] Iowa Department of Agriculture and Land Stewardship; [KDA] Kentucky Department of Agriculture; [MOCA] Marin Organic Certified Agriculture; [MDA] Maryland Department of Agriculture; [MOSA] Midwest Organic Services Association, Inc.; [MCIA] Minnesota Crop Improvement Association; [MCS] MOFGA Certification Services, LLC; [MTDA] Montana Department of Agriculture; [MCCO] Monterey County Certified Organics; [NFC] Natural Food Certifiers; [NICS] Natures International Certification Services; [NHDAMF] New Hampshire Department of Agriculture,

Markets & Food; [NJDA] New Jersey Department of Agriculture; [NMDA] New Mexico Department of Agriculture; [NOFA-NY] Northeast Organic Farming Association of New York; [OEFFA] Ohio Ecological Food and Farm Association; [ODAFF] Oklahoma Department of Agriculture, Food and Forestry; [ONE] OneCert, Inc.; [ODA] Oregon Department of Agriculture; [OTCO] Oregon Tilth Certified Organic; [OC] Organic Certifiers, Inc.; [OCIA] Organic Crop Improvement Association; [PCO] Pennsylvania Certified Organic; [PL] Primus Labs; [QAI] Quality Assurance International; [QCS] Quality Certification Services; [RIDEM] Rhode Island Department of Environmental Management; [SCS] SCS Global Services; [TDA] Texas Department of Agriculture; [UDAF] Utah Department of Agriculture & Food; [VOF] Vermont Organic Farmers, LLC; [WSDA] Washington State Department of Agriculture; [YDA] Yolo County Department of Agriculture

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Low-Maintenance Forest Garden Offers 500 Edible Plants

Low-Maintenance Forest Garden Offers 500 Edible Plants

by Permaculture Research Institute

Instead of neat rows of monoculture, forest gardens combine fruit and nut trees, shrubs, herbs, vines and perennial vegetables together in one seemingly wild setting.

This type of agroforestry mimics natural ecosystems and uses the space available in a sustainable way.

UK-based Martin Crawford is one of the pioneers of forest gardening.

Starting out with a flat field in 1994, his land has been transformed into a woodland and serves as an educational resource for others interested in forest gardening.

This short film by Thomas Regnault focuses on Crawford's forest garden, which is abundant, diverse, edible, and might be one answer to the future of food systems.

See also How to Design and Build a Forest Garden

Connect with Permaculture Research Institute

Vaccination, Not Raw Milk,

Source of Infective Brucella RB51

Source: The Family Cow Newsletter

by Edwin Shank
February 19, 2019

Vaccination…
Source of Infective Brucella RB51

Good morning folks!

Recently, you have seen scary headlines something like this.

“People in 19 states exposed to Brucella from drinking raw milk.”

You probably saw these headlines on your own… but if you didn’t, I’m guessing that some concerned family member or friend has made sure you heard about it. And they may have even rubbed it in like, “See… we told you that raw milk is terribly dangerous!”

So what is the truth? Is your family at risk? Are you at risk? Is Family Cow raw milk a risk? Where did this Brucella infection suddenly come from?

Well, we all know that truth is stranger than fiction. But this truth is SO strange that you might not believe me even if I tell you. Let’s try you out!

Here’s the TRUTH:

The RB51 strain of Brucella is an antibiotic resistant,

modified live strain of Brucella that veterinarians give to cows as a vaccination.

Yes… RB51 is a direct transfer of unintended consequences of a brucellosis vaccination. It does not exist in nature. RB51 is a mutant, rifampicin-resistant bovine Brucella vaccine strain developed in a laboratory specifically for vaccination. That is why it is so traceable. It is unique. There is nothing else like it out there in nature. [Source]

Still Don't Believe Me?

I understand. That's why I'm linking the official letter which PA Department of Agriculture sent out to all PA raw milk farmers when it first became apparent that this RB51 vaccine had jumped species lines. Notice: toward the bottom of the letter, the state actually goes on official record advising raw milk farmers against using this Brucella vaccine. Here are their exact words: *"PDA recommends that producers who sell raw milk stop immunizing their cattle for Brucella."*

Family Cow Raw Milk is NOT at risk.

Why? Well, one reason is that we do not vaccinate our cows for Brucella. And that decision was in place a long time before the PDA issued their warning. In fact, we have not vaccinated for Brucella on our farm since my father's day, which, next year, will be 30 years. The second reason is that we have been testing our Family Cow herd every year for over 11 years specifically for Brucella. We have never had a positive. And we really do not expect to since Pennsylvania has been classified as a brucellosis free state since April 1, 1983.

4 Crucial Points to Understand this Brucella Story

1st: ALL cows in PDA approved raw milk herds are annually blood tested by a licensed veterinarian specifically for Brucellosis. The test is mandatory. There is a zero tolerance. As I stated above, we've tested our Family Cow herd every year

for over 11 years. We have never had a positive.

2nd: The farm in this brucellosis case was not licensed or permitted by PDA for raw milk sales. Therefore, prior to this incident, these cows were not required to be blood tested for brucellosis. I do not take the position that all farms must be permitted and licensed. There is a place for private clubs and herd shares… but… folks who choose to source their food from private arrangements such as these will need to be responsible to ask more of their own questions about testing (or the lack thereof) and make their source selection accordingly.

3rd: We never endorse selling raw milk from untested herds. And neither does RAWMI, the high integrity raw milk farmer group that we support and are a part of. Even if a herd is not going to be state permitted because they sell via a private co-op… annual blood testing of every cow, and regular lab testing of the milk is, in my conviction, an absolute must. You all know where we stand on this.

4th: It is important to read the news very carefully. Even though we do not advocate untested raw milk herds… even in this case we are still disappointed at the way the news media is misrepresenting this.

There is *one person* from NY ill that is linked to Miller's Biodiversity farm. The milk was sold to customers in 19 states but people are not sickened in 19 states. The sneaky word here is 'exposed.' "People in 19 states were exposed" just sounds so bad. Yet in most industrial food contamination events which happen all the time, often the whole nation and even other countries are exposed! Most folks hear "19 states exposed" and understandably are led to believe there is a huge, scary, imminent, apocalypse of epic proportions.

And if that is not bad enough… some media have actually twisted it further to announce headlines like this: *"People in 19 states infected with brucellosis after drinking raw milk."*

This is totally irresponsibly false! There is one ill person with a link to the farm in question.

And how often is the word ‘outbreak’ used? Is that for max fear effect too? It certainly works that way. Something big and bad has broken out and it’s coming our way! With only one ill person, this case does not even fit the CDC definition of an outbreak. To call an incident of any illness an outbreak, long accepted epidemiology standards require there be at least two links to the suspected source.

It’s almost enough to make a person wonder… Do you think it’s possible that the media in conjunction with the CDC maybe even want to make raw milk look bad? Hmm…

To be continued…

All the best of food and blessings…

Your Farmer ~ Edwin Shank and Family,
and the whole Family Cow Team

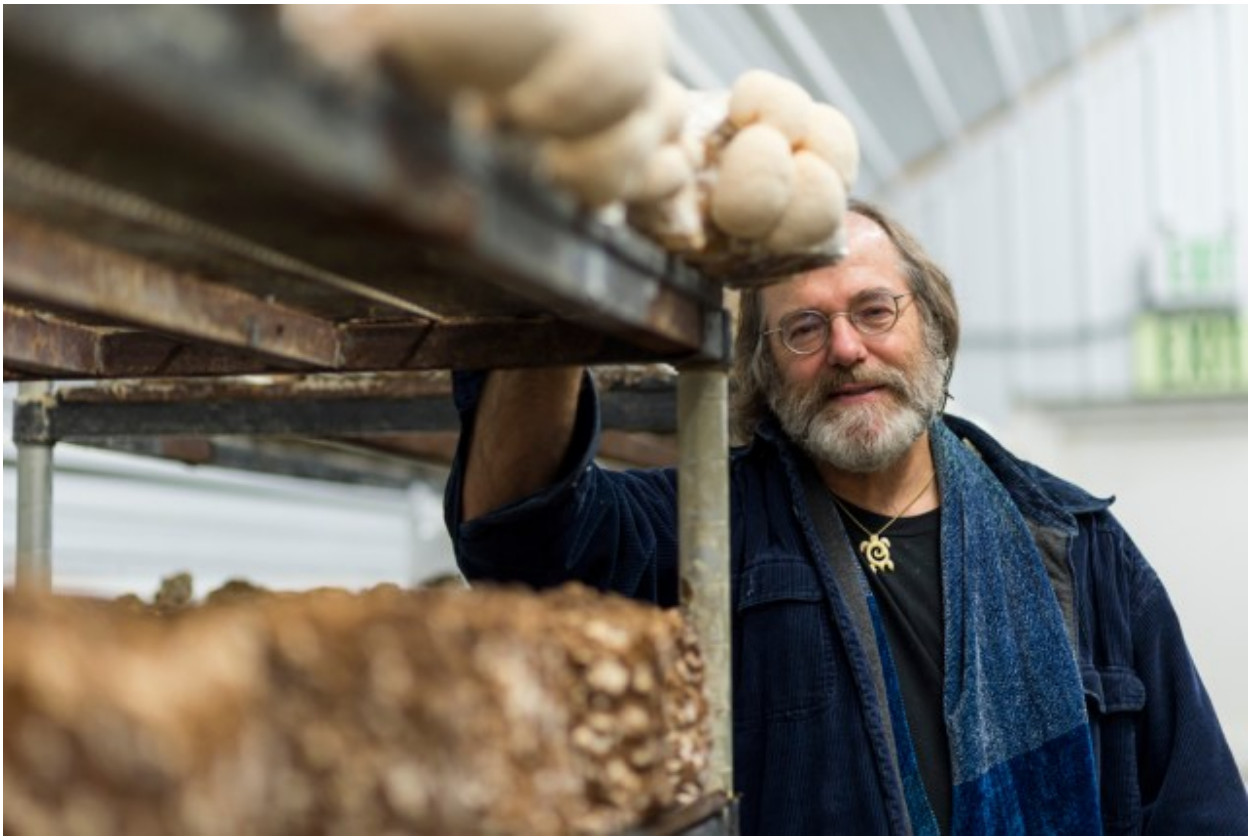
God Designed it. We Respect it. That Explains it!

NOTE: These newsletters are crucial to our family mission of spreading truth and transparency in food, farming and faith. If you have friends and family whose “truth source” is the mainstream media, (and therefore think you’ve lost your marbles) forward this email to them. Maybe, just maybe they’ll wake up and sign up and catch up with the rest of you.

That’s right! “*Fresh Thoughts on Real Food*“ is not just for Family Cow customers. It is free for anyone who is intrigued enough to follow our family’s struggle for God-honoring

methods of soil-healing farming, growing people-healing foods and planting non-industrial, farmer-connected, community-healing food systems.

How Mushrooms Can Save the World



by Fungi Perfecti

Mycofiltration Enters the Commons
March 20, 2015

Fungi Perfecti founder and director of research, Dr. Paul

Stamets, announced today the release of mycofiltration and mycorestoration as public domain terms and technologies. The move formalizes a long-standing company policy of “teaching the teachers” the art and developing science of mycofiltration through annual seminars, workshops, and lectures. Stamets made the move to fully disclose mycofiltration as public domain to clear up any remaining doubt about the intellectual property status of the technology.

The technology, known as “mycofiltration” refers to the intentional and judicious use of cultivated networks of fungal mycelium to facilitate water quality improvements in engineered ecosystems. This ecologically rational biotechnology is a promising technique for enhancing management of stormwater, graywater, and agricultural runoff. The approach of adding cultivated fungi to surface water management practices was invented by Stamets in the late 1980s when a serendipitously placed ‘garden giant’ *(**Stropharia rugoso-annulata**)*mushroom bed reduced bacteria runoff from upland pasture (Stamets, 2005). He named this technology, “mycofiltration” based on the Classic Greek *“mykēs”* meaning “fungus” (Stamets, 1993).

“I initially filed a patent on mycofiltration in 2001 [link] to protect the technology from misuse and to help support my lifelong goal to transform gourmet mushroom farms into healing arts centers. I have since given up the patent, which, ironically, now makes this information freely available and impossible for others to patent in the future. The technology is public domain and it is my gift to environmental stewards. This announcement just formalizes that.”

Under the open-source release, Stamets’ mycofiltration patent application now resides in the public domain, as do his formerly trademarked terms Mycofilter and Mycorestoration. Select written descriptions of the concept, methods, and applications will also be made publically available under the C.C. Attribution-ShareALike license. Photographs,

presentations, and Fungi Perfecti branded materials will remain copyrighted but may be used on a case-by-case basis with written permission.

Fungi Perfecti continues to support the development of mycofiltration as an environmentally rational addition to the toolkit currently available for surface water management. In 2012, a mesocosm-scale study jointly conducted by Fungi Perfecti and Washington State University (WSU) confirmed the potential of mycofiltration media to remove ***E. coli*** from synthetic stormwater under laboratory conditions (Taylor and others, 2014). The study confirmed that the "garden giant" mushroom, ***Stropharia rugoso-annulata*** has superior resiliency to the environmental conditions present in mycofiltration field settings [link], and affirmed Stamets' original discovery by documenting improved removal of bacteria with this species [link].

According to Stamets: "We remain dedicated to advancing the science and increasing the adoption of mycofiltration. The need is too great and time is too short for us to do it alone. We are happy to supply mycelium to people who wish to develop this technology [www.fungi.com], but we are not holding anyone to our business alone. The important thing is that we get this information out there and put to use."

Related Link: How Mushrooms Can Save the World