



## Soil Health is National Security

**In the supermarket** these days, you could be forgiven for wondering about the state of the American agricultural system, given all the different virtue-signaling terms being bandied about. Regenerative, Natural, Organic, Pasture-raised, Low carbon footprint, Sustainable, Cage-free — when it comes to marketing, companies sure know how to sell what *sounds* healthier. But since less than 1% of the entire acreage under cultivation in the US is officially being farmed organically, how can it be that so many of the items on the shelf have such an illustrious pedigree? Well, in fact, except for organic labeling certified by the USDA, none of these terms have official definitions.

In addition to being alert to “greenwashing” from corporations, we all need to learn as much as we can about the interconnected issues of soil health, animal and human health, and fertilizer/pesticide inputs, because, frankly, it is not only our health but our national security that is at stake. Wherever we live, we depend on a complex set of interconnected food production and transportation systems — no one is food self-sufficient. And food security is national security.

Given the recent plague, drought and extreme fire events, and when we consider the national security impact that extreme weather events can have on agricultural production, no responsible observer can deny the case for building climate change resilience into our food system. How we build food system resilience, and how fast we do it, depends on accurately diagnosing the structural risks built into our current agricultural practices.

The terrifying fact is that the majority of our farms, ranches and orchards are exceedingly vulnerable to the unpredictable effects of climate change, and the petroleum-based, corporate industrial agricul-

tural practices of the twentieth century are at the heart of the problem. Proponents of what is widely being called “regenerative agriculture” argue that, amidst all the social and political reckoning going on, we must also now prioritize the health of the soil and the farm animals (including the humans,) so we can protect and strengthen the economic health of our farmers and continue to provide abundant and diverse food for our country.

Unfortunately (though understandably) over the past 75 years, a majority — though not all — of our farmers have embraced the use of petroleum-based inputs and genetically modified seeds to ensure high yields and more reliable profits. The continuous use of GMO seeds, fertilizers, and pesticides causes farmers to effectively poison their own land with chemicals that ultimately destroy of the capacity of their soils to grow nutritious food. This chemically facilitated agricultural practice mines the soil to extract the maximum yield and pollutes our water supplies. Adding insult to injury, the wind carries these dangerous chemicals aloft, contaminating neighboring fields and communities.

Monoculture agricultural practices make our farmers more vulnerable to losing major food crops to disease, blight, fungal and other infections. Writing recently in *Scientific American*, Maryn McKenna described the “deadly kingdom” of fungal infections, noting that “[Fungi] destroy one-fifth of the world’s food crops in the field every year.” In fact, here in the US, we have already lost a major food supply to a fungal plague: early in the Twentieth century, the *Cryphonectria parasitica*, a fungal infection known as Chestnut Blight, wiped out the American chestnut tree, an important food source dating to prehistoric times.

# Soil Health is National Security *(continued)*

Over 90% of the soybeans, corn, canola and sugar beets now grown in the US are planted with GMO seeds in monoculture fields. When (not if) a disease, blight or fungal plague hits those fields, our farmers will face disastrous losses, and we will face unprecedented levels of food insecurity. There are now efforts across the country to change everything from how poultry is produced to how cattle are fed, how fields are planted and how crops are nourished. The burning question is, will our agricultural sector be able to change quickly enough to forestall the next dust bowl or prevent a virulent plague from wiping out our mainstay crops?

Fortunately, there is a rising tide of vegetable farmers, ranchers, orchardists, agronomists and others who are stepping up to the challenge of securing our food supply. Leaders in regenerative agricultural practices like Gary Zimmer, Nicole Masters, Reginaldo Haslett-Marroquin and many others are sharing strategies. They are helping old and new farmers build climate change resilience at production scale by returning to older, often indigenous practices to produce the food we need in a sustainable way that ensures that healthy soils will be there for our children and grandchildren.

In addition to this important grass roots movement, there are some welcome changes happening at the top, too: In the latest sign that the powers-that-be are starting to recognize the dangers of the path we are on, in early June the USDA announced a \$4 billion investment to strengthen the US food system, funded by the American Rescue Act. In announcing the new initiative, Agriculture Secretary Tom Vilsack described our agricultural system as “rigid, consolidated and fragile,” and promised that the administration would “...build a food system that is more resilient against shocks, delivers greater value to growers and workers, and offers consumers an affordable selection of healthy food produced and sourced locally and regionally by farmers and pro-

cessors from diverse backgrounds.” Most recently, the USDA has issued a Request for Comments on a new program called the Climate-Smart Agriculture and Forestry Partnership program<sup>ii</sup>, which, depending on how it is implemented, should help to ensure that the US agricultural sector moves decisively toward regenerative practices.

How can we help our farmers move away from corporate industrial style agriculture practices? By rapidly increasing the demand for non-GMO products, by buying locally grown vegetables, grains and meat, and by raising our voices now, urgently, to ensure that our tax dollars are invested in ways that strengthen our food, and therefore our national, security. Soil health legislation is being proposed — and implemented — across the country on a state-by-state basis: find out what’s going on in your state and support those politicians who vote your values.

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*My perspective has been shaped by a lifetime of concern grounded in the study of international affairs, geography/hydrology, and law. A full bio is available at [www.linkedin.com/in/lydialazar/](https://www.linkedin.com/in/lydialazar/).*

i. There were approximately 5 million certified organic acres of farmland in 2016, representing less than 1% of the 911 million acres of total farmland nationwide. <https://www.pewresearch.org/fact-tank/2019/01/10/organic-farming-is-on-the-rise-in-the-u-s>

ii. <https://www.usda.gov/media/press-releases/2021/09/29/usda-announces-3-billion-investment-agriculture-animal-health-and>