

# ALL WE CAN SAVE

---

Truth, Courage, and Solutions  
for the Climate Crisis

EDITED BY

Ayana Elizabeth Johnson  
&  
Katharine K. Wilkinson



ONE WORLD • NEW YORK

Ask me what I know of longing and I will speak of distances  
between meadows of night-blooming flowers.

I will speak  
the impossible hope of the firefly.

You with the candle  
burning and only one chair at your table must understand  
such wordless desire.

To say it is mindless is missing the point.

## Black Gold

LEAH PENNIMAN

Dijour Carter refused to get out of the van parked in the gravel driveway at Soul Fire Farm in Grafton, New York. The other teens in his program emerged, skeptical, but Dijour lingered in the van with his hood up, headphones on, eyes averted. There was no way he was going to get mud on his new Jordans and no way he would soil his hands with the dirty work of farming. I didn't blame him. Almost without exception, when I ask Black visitors to the farm what they first think of when they see the soil, they respond with "slavery" or "plantation." Our families fled the red clays of Georgia for good reason—the memories of chattel slavery, sharecropping, convict leasing, and lynching were bound up with our relationship to the Earth. For many of our ancestors, freedom from terror and separation from the soil were synonymous.

While the adult mentors in Dijour's summer program were fired up about this field trip to a Black-led farm focused on food justice, Dijour was not on board. I tried to convince him that although the land was the "scene of the crime," as Chris Bolden Newsome, farm manager at Sankofa Farm, put it, she was never the criminal. But Dijour was unconvinced. It was only when he saw the group departing on a tour that his fear of being left alone in a forest full of bears overcame his fear of dirt. He joined us, removing his Jordans to protect them from the damp earth and allowing, at last, the soil to make direct contact with the soles of his bare feet. Dijour, typically stoic and reserved, broke into tears during the closing circle at the end of that day. He explained that when he was very young, his grandmother had shown him how to garden and how to gently hold a handful of soil teeming with insects. She had died years ago, and he had forgotten these lessons. When he removed his shoes on the tour and let the mud reach his feet, the memory of her and of the land traveled from the earth, through his soles, and to his heart. He said that it felt like he was "finally home."

## Our Sacred Ancestral Relationship with Soil

The truth is that for thousands of years Black people have had a sacred relationship with soil that far surpasses our 246 years of enslavement and 75 years of sharecropping in the United States. For many, this period of land-based terror has devastated that connection. We have confused the subjugation our ancestors experienced on land with the land herself, naming her the oppressor and running toward paved streets without looking back. We do not stoop, sweat, harvest, or even get dirty because we imagine that would revert us to bondage. Part of the work of healing our relationship with soil is unearthing and re-learning the lessons of soil reverence from the past.

We can trace Black people's sacred relationship with soil back at least to the reign of Cleopatra in Egypt beginning in 51 B.C.E. Recognizing the earthworm's contributions to the fertility of Egyptian soil, Cleopatra declared the animal sacred and decreed that no one, not even a farmer, was allowed to harm or remove an earthworm for fear of offending the deity of fertility. Worms of the Nile River Valley are thought to have been a significant contributor to the extraordinary fertility of Egyptian soils. In West Africa, the depth of highly fertile anthropogenic soils serves as a "meter stick" for the age of communities. Over the past few centuries, women in Ghana and Liberia have combined several types of waste—including ash and char from cooking, bones from meal preparation, by-products from processing handmade soaps, and harvest chaff—to create African Dark Earths. \* This black gold has high concentrations of calcium and phosphorus, as well as 200 to 300 percent more organic carbon than soils typical to the region. Today community elders measure the age of their towns by the depth of the black soil, since every farmer in every generation participated in its creation.

When the colonial governments in northern Namibia and southern Angola attempted to force Ovambo farmers off their land, they offered what they said were equivalent plots with better-quality soil. The farmers refused to be displaced, countering that they had invested substantially in building their soils and doubted that the new areas would ever equal their existing farms in fertility. The Ovambo people knew that soil fertility was not an inherent quality but some-

thing that is nurtured over generations through mounding, ridging, and the application of manure, ashes, termite earth, cattle urine, and muck from wetlands.

This reverent connection between Black people and soil traveled with Black land stewards to the United States. In the early 1900s, George Washington Carver was a pioneer in regenerative farming and one of the first agricultural scientists in the United States to advocate for the use of leguminous cover crops, nutrient-rich mulching, and diversified horticulture. He wrote in *The American Monthly Review of Reviews* that the soil's "deficiency in nitrogen can be met almost wholly by the proper rotation of crops, keeping the legumes, or pod-bearing plants, growing upon the soil as much as possible." He advised farmers to dedicate every spare moment to raking leaves, gathering rich earth from the woods, piling up muck from swamps, and hauling it to the land. Carver believed that "unkindness to anything means an injustice done to that thing," a conviction that extended to both people and soil.

## The Impacts of Our Estrangement from Soil

One of the projects of colonization, capitalism, and White supremacy has been to make us forget this sacred connection to soil. Only when that happened could we rationalize exploiting it for profit. As European settlers displaced Indigenous peoples across North America in the 1800s, they exposed vast expanses of land to the plow for the first time. It took only a few decades of intense tillage to drive around \* 50 percent of the original organic matter from the soil into the sky as carbon dioxide. The agricultural productivity of the Great Plains decreased 64 percent after just twenty-eight years of tillage by Europeans. The initial rise in atmospheric carbon dioxide levels was due to the oxidation of soil organic matter through plowing. *That means human-caused climate change started not just with the Industrial Revolution but with the exploitation of the soil.*

The planet's soils continue to be in trouble. Each year we lose \* around 25 million acres of cropland to soil erosion worldwide. The loss is ten to forty times faster than the rate of soil formation, driving carbon into the atmosphere and putting global food security at risk.

Soil degradation alone may decrease food production by 30 percent over the next fifty years.

When soils suffer the most egregious abuse, they can no longer even provide stable ground beneath our feet. In late 2018, wildfires blazed through parts of California, burning up the soil organic matter and ravaging the vegetation that held the hillsides in place. Heavy rain followed the Camp Fire, and the destabilized mud and boulders flowed downhill, leaving at least eighty-five dead and nearly nineteen thousand structures damaged or destroyed in its wake. Both the wildfires and the erratic rainfall can be linked to anthropogenic climate change and our voracious appetite for fossil fuels. Coupled with that, the process of extracting those fossil fuels from the Earth through coal mining and fracking further destabilizes the soil, resulting in sinkholes like the one in Chester County, Pennsylvania, connected to the Mariner East gas pipeline.

When the soil suffers, it's not just our food supply and our climate that are at risk. The further the population gets from its connection to Earth, the more likely we are to ignore and exploit those who work the soil. As Wendell Berry wrote in *The Hidden Wound*:

The white man, preoccupied with the abstractions of the economic exploitation and ownership of the land, necessarily has lived on the country as a destructive force, an ecological catastrophe, because he assigned the hand labor, and in that the possibility of intimate knowledge of the land, to a people he considered racially inferior; in thus debasing labor, he destroyed the possibility of a meaningful contact with the earth. He was literally blinded by his presuppositions and prejudices. Because he did not know the land, it was inevitable that he would squander its natural bounty, deplete its richness, corrupt and pollute it, or destroy it altogether. The history of the white man's use of the earth in America is a scandal.

\* In the United States today, nearly 85 percent of the people who work the land are Hispanic or Latinx and do not enjoy the same labor protections under the law as other American workers in other sectors. Pesticide exposure, wage theft, uncompensated overtime, child labor,

lack of collective bargaining, and sexual abuse are all-too-common experiences of farmworkers today. Record heat waves, attributable to climate change, have caused injury and death to farmworkers.

Society's abuse of soil and atmosphere has led to dire consequences for communities of color across the globe, who are disproportionately harmed by climate change. Devastating hurricanes have become regular annual visitors in the Caribbean islands and coastal areas of the United States. Several Alaskan Native communities struggle to hunt and fish in their traditional ways because rising temperatures are ravaging ecosystems and wildlife. And sub-Saharan Africa is among the regions projected to experience the harshest impacts of climate change. "If you're not affected by climate change *today*, that itself is a privilege," climate activist [Andrea Manning](#) says.

### Black Farmers Heal the Soil and the Climate

But the same communities on the front lines of climate impacts are also on the front lines of climate solutions. A new generation of Black farmers is using heritage farming practices to undo some of the damage first brought on by the intense tillage of early European settlers. Their practices drove around half of the organic matter from the soil into the sky as carbon dioxide. Agriculture continues to have a profound impact on the climate; along with forestry, deforestation, and other land use, it contributes roughly 24 percent of global greenhouse gas emissions.

Now Black farmers are using heritage practices to reduce emissions and to capture excess carbon from the air and trap it in the soil. Our ancestral strategies are bolstered by Western science and listed among the most substantive solutions to global warming, per Project Drawdown's analysis.

One practice, silvopasture, is an Indigenous system that integrates nut and fruit trees, forage, and grasses to feed grazing livestock. Another, regenerative agriculture, involves minimal soil disturbance, organic production, compost application, the use of cover crops, and crop rotation. Both systems harness plants to capture greenhouse gases. Plants are nature's alchemists, transforming atmospheric carbon dioxide into sugar and trapping it on the land where it belongs.

Here are examples of how three womxn-led farms are putting these practices to work.

### *High Hog Farm, Grayson, Georgia*

Not everyone in the Black farming community is as excited about fiber as Keisha Cameron. Given the prominent role of the cotton industry in the enslavement of African Americans, many farmers eschew cultivation of textiles. “We are largely absent from the industry on every scale,” she explains. “Yet these agrarian art ways and life ways are part of our heritage.”

At High Hog Farm, Cameron and her family are working to establish tree guilds, a system where fruit trees are surrounded by a variety of crops, in this case indigo, cotton, and flax. They also raise heritage breeds of sheep, goats, rabbits, horses, chickens, and worms in an integrated silvopasture system and sell fiber and meat. One of her favorite varieties is American Chinchillas, rabbits that consume a wider diversity of forage than goats and fertilize the pasture with their manure.

Their goal is a “closed loop” where all the fertility the farm needs is created in place. They pack a lot of enterprises into a small space. “We have five acres,” she says playfully. “Just enough to be dangerous.”

\* In his book *The Carbon Farming Solution*, Eric Toensmeier writes that silvopasture systems can absorb more than two metric tons of carbon per acre every year, stored in above- and below-ground biomass of grasses, shrubs, and trees. Emissions released by grazing animals can be completely offset by the carbon sequestered in well-managed pastures.

In addition to healing the climate, silvopasture is a joyful practice. “I get to play with sheep and bunnies. What could be better?” Cameron poses.

### *Soul Fire Farm, Grafton, New York*

As Larisa Jacobson, codirector of Soul Fire Farm, explains, “Our duty as earthkeepers is to call the exiled carbon back into the land and to bring the soil life home.”

When we first arrived on the land in 2006, the soil was tired. Nearly all of the topsoil had washed down the hill or been burned up into the sky. Our shovel tips met hardpan, gray clay, and the soil tests revealed a meager 3 to 4 percent organic carbon. Like so many Black farmers who have been historically dispossessed of land, we were fortunate to be able to afford even a few acres of marginal soil. We would make do.

The egg-laying chickens were the first contributors to the soil healing, pecking and scratching while depositing their rich manure over the land. We then added layers of compost, forest leaves, hay, and brown paper to form mounds for planting. As George Washington Carver advocated, we diligently planted leguminous cover crops wherever bare soil could be found, transmuting atmospheric carbon and nitrogen into solid form. Under Larisa’s leadership, we minimized tractor tillage and used innovative but low-tech methods like placing tarps over empty beds to discourage weeds. As a result, the organic matter on the farm is now at precolonial levels of 10 to 12 percent, the native biodiversity is returning, and the soils are black, rich, and yielding.

My nickname on the farm is “Perennial Papa,” because of my love affair with plants whose life cycles extend across many seasons. Unlike annuals, which are born, mature, and die in just one year, perennial plants know how to rest through the long winters and resume their growth in the spring thaw. Apples, blueberries, bee balm, mint, elderberry, peaches, and strawberries are among the myriad perennials I planted on the farm with the goal of trapping even more carbon beneath the soil. Nature abhors a monoculture, which is a large expanse of one single crop. Instead, nature plants trees together with shrubs, forbs, and grasses and has animals grazing through the system. We mimic nature’s technology by creating our own agroforestry system, which may be the most climate-healthy type of farming possible.

Soul Fire Farm is a training center where thousands of aspiring Black and Brown farmers attend courses in Afro-Indigenous regenerative agriculture. Our goal is to catalyze and support a new generation of climate-savvy farmers committed to justice and healing.

Our ancestral grandmothers braided seeds and hope into their hair before being forced to board transatlantic slave ships, believing against odds in a future on soil. If they did not give up on us, their

descendants, in those trying times, who are we to abandon faith? So we plant our seeds as well.

### *Fresh Future Farm, North Charleston, South Carolina*

When Germaine Jenkins first moved to Charleston, she relied on SNAP and food pantries to feed her children. “I did not like that we couldn’t choose what we wanted to eat,” she says, “and there were few healthy options. I was sick of standing in line and decided to grow my own stuff.”

Jenkins learned how to cultivate her own food through a master gardening course, a certificate program at Growing Power, and online videos. She promptly started growing food in her yard and teaching her food-insecure clients to do the same through her work at the Lowcountry Food Bank. In 2014 Jenkins won an innovation competition and earned seed money to create a community farm.

Today, Fresh Future Farm grows on 0.8 acres in the Chicora neighborhood and runs a full-service grocery store right on site. “We are living under food apartheid,” explains Jenkins. “So all of the food is distributed right here in the neighborhood on a sliding-scale pay system.”

Jenkins relies on what she calls “ancestral muscle memory” to guide her regenerative farming practices. Fresh Future Farm integrates perennial crops such as banana, oregano, satsuma, and loquat together with annuals like collards and peanuts. The farm produces copious amounts of compost using waste products like crab shell, and the farmers apply cardboard and wood chips in a thick layer of mulch. “We repurpose everything—old Christmas trees as trellises and branches as breathable cloche for frost-sensitive crops.” Jenkins explains. They even have grapes growing up the fence of the chicken yard so that the “chickens fertilize their own shade.”

Jenkins’s farming methods have been so successful at increasing the organic matter in the soil that the farm no longer needs irrigation. It is also less vulnerable to flooding. “Two winters ago, we had four inches of snow. Our soil absorbed all of it,” Jenkins says.

Toensmeier writes that for every 1 percent increase in soil organic matter, we sequester roughly 8.5 metric tons of atmospheric carbon

per acre. If all of us were to farm like Jenkins, Jacobson, and Cameron, we could potentially put 300 billion metric tons of carbon dioxide back in the soil where it belongs. To keep warming to 1.5 degrees \* Celsius, we need both dramatic emissions reductions and widespread carbon sequestration; shifting our agricultural practices could comprise 15 percent of the puzzle, according to Project Drawdown.

### **Soil and Healing**

The soil stewards of generations past recognized that healthy soil is not only imperative for our food and climate security—it is also foundational for our cultural and emotional well-being. My teachers, the Queen Mothers of Odumase Krobo, Ghana, admonished, “How can it be that you Americans put a seed in the ground, and you do not pray, sing, dance, or pour libations and you expect the Earth to feed you? The Earth is a relative, not a commodity. That is why you are all sick!”

Even Western science agrees that part of our sickness is connected to estrangement from the soil, positing that exposure to the microbiome of a healthy soil offers benefits to mental health that rival antidepressants. After mice were treated with *Mycobacterium vaccae*, a friendly soil bacteria, their brains produced more of the mood-regulating hormone serotonin. Some scientists are now advocating that we play in the dirt to care for our psychological health.

We see the benefits of soil anecdotally on our farm with the youth and adult participants who come to learn Afro-Indigenous soil-regeneration methods. While the curriculum focuses on such nerdy details as the correlation between earthworm count and soil organic matter, participants often reflect that the main thing they gain from their time with the dirt is “healing” and the strength to leave behind addictions, toxic relationships, poor diets, and demeaning work environments.

Our ancestors teach us that it’s not just soil bacteria that contribute to this healing process. Part of African cosmology is that the spirits of our ancestors persist in the Earth and transmit messages of encouragement and guidance to us through contact with the soil. Further, we believe the Earth herself is a living, conscious spirit imparting

wisdom. When we regard a handful of woodland soil, rich in the mycelium that transmits sugars and messages between trees, we are made privy to the inner world of the forest superorganism and its secrets of sharing and interdependence.

In healing our relationship with soil, we heal the climate, and we heal ourselves.

Like Dijour, we are welcomed home to a profound web of belonging that extends beyond the boundaries of self and species. One student on our farm reflected, "I leave this experience feeling grounded like a tree in a land and country that I previously did not feel welcomed in. Connection with soil was the awakening of my sovereignty."

## Ode to Dirt

SHARON OLDS

Dear dirt, I am sorry I slighted you,  
I thought that you were only the background  
for the leading characters—the plants  
and animals and human animals.  
It's as if I had loved only the stars  
and not the sky which gave them space  
in which to shine. Subtle, various,  
sensitive, you are the skin of our terrain,  
you're our democracy. When I understood  
I had never honored you as a living  
equal, I was ashamed of myself,  
as if I had not recognized  
a character who looked so different from me,  
but now I can see us all, made of the  
same basic materials—  
cousins of that first exploding from nothing—  
in our intricate equation together. O dirt,  
help us find ways to serve your life,  
you who have brought us forth, and fed us,  
and who at the end will take us in  
and rotate with us, and wobble, and orbit.