TOP 10 TRUTHS ABOUT ORGANIC

Organic food reduces the amount of pesticides in your body
Along with our study, research shows that switching to an organic diet rapidly and dramatically reduces your exposure to toxic pesticides linked to adverse health impacts, from autism to infertility to cancer.[1,2,3,4] Organic farmers grow abundant food without the use of an estimated 17,000 pesticide products allowed in chemical farming.[5] Instead, organic farmers use ecological methods like planting cover crops and rotating crops in fields to build soil health and manage pests and weeds so they don't need to depend on toxic chemicals in the first place.[6] Research also shows that an organic diet can help protect your health. One study published in the Journal of the American Medical Association found that those who ate the most organic food lowered their overall risk of developing cancer by 25 percent.[7] Another study found fertility benefits for women who ate more organic food.[8]

Organic farming protects people on the frontlines of pesticide exposure
While the pesticide industry spins organic food as elitist, the reality is that the most vocal advocates for a toxic-free food system are those on the frontlines of pesticide exposure: farmers, farmworkers and pesticide applicators who are exposed to toxic pesticides directly; rural communities whose children live and go to school near farms where toxic pesticides are sprayed; and low-income communities in the shadow of chemical manufacturing plants. Farmworkers can be exposed at levels hundreds of times higher than consumers' exposure to pesticides. Farmers, farmworkers and their families have higher rates of acute poisonings, cancers, birth defects, asthma, infertility, autism and other neurological effects.[9] Organic farming reduces farmer, farmworker and rural community exposure to toxic synthetic pesticides.[10] No one should have to sacrifice their health and their children's health to grow the food we all eat. An organic food system free of toxic pesticides is a human right.

Organic food is non-GMO, antibiotic-free and more
Organic standards prohibit the use of GMOs (genetically modified organisms), synthetic fertilizers, irradiation and sewage sludge (treated toilet waste, which is allowed in non-organic farming as a fertilizer). When it comes to dairy and meat, organic producers don't use antibiotics, growth hormones or arsenic-based drugs, whereas over 450 drugs are allowed in non-organic production.

The organic label is trustworthy
The organic seal is backed by a robust set of criteria governed by federal law under the National Organic Program at the United States Department of Agriculture. All organic farmers are inspected by an independent third-party certifier each year.[11] Organic farming supports a food system that values environmental stewardship, public health and honest labeling.

Organic shoppers are diverse
The latest data shows that the demographics of organic buyers matches the diversity of the American population.[12] Over 80 percent of U.S. households report buying organic at least sometimes, and a growing number of black and Hispanic families are choosing organic.[13] Organic remains the fastest-growing sector of the food industry; its growth far outpaces the overall food market.[14,15] Millennials are devouring organic at record rates and are expected to purchase even more as they become parents.[16]

Organic farming is a climate solution
Experts agree that a massive transition to organic practices will be a key part of the climate solution. Organic farms use less energy and emit fewer greenhouse gas emissions, in large

part because they are not dependent on petroleum-based chemicals or synthetic fertilizers, which are extremely energy-intensive to produce.[17,18] Organic farms also help pull carbon dioxide from the atmosphere into the soils (a process known as carbon sequestration), a critical climate change mitigation strategy.[19,20,21,22] Organic farming has also been shown to yield more in times of weather extremes like drought and floods. It also conserves water resources, which means organic farmers are more resilient to the impacts of climate change.[23,24]

Organic farming is good for the birds and bees
Organic farmers foster biodiversity both above ground and in the soil beneath our feet.[25] Organic farms help protect pollinators like bees and butterflies, essential to one in three bites of food we eat.[26] They support up to 50 percent more pollinating species than pesticide-intensive farms and they help other beneficial insects flourish.[27] Below ground, just one teaspoon of compost-rich organic soil can host as many as one *billion* helpful bacteria from 15,000 species. On the flip side, one teaspoon of soil treated with synthetic pesticides and fertilizers may have as few as 100 helpful bacteria — that's 10 million times less.[28] Organic farming also protects clean water. While chemical-intensive agriculture leads to poisoned rivers, algae blooms and oceanic dead zones, studies show that organic farming can protect waterways from agricultural runoff and its harmful effects.[29,30]

Organic farming can feed a growing world population
Science shows that organic farming can produce enough food to feed a growing world population while protecting the natural resources we need to grow food for generations to come.[31] What's more, research consistently shows that hunger is not a problem of an insufficient supply of food, but results from poverty, lack of democracy and unequal access to land, water and other resources.[32,33] The United Nations summarizes the latest science by asserting that pesticides have "catastrophic impacts on the environment, human health and society as a whole" in a report that debunks the myth that pesticides are necessary to feed a growing world population.[34] Scientists agree that we need a rapid transition to organic and ecological farming in order to protect the ecosystems we depend on to grow food, now and into the future.[35]

Organic farming is an economic opportunity for farmers and rural America
Data shows that organic farming is more profitable for farmers and provides greater economic stability and well-being.[36] Organic farms also create more jobs than their conventional counterparts.[37] Organic can be an important solution to rural poverty. Research shows that counties with high levels of organic farming and associated organic businesses like processors and retailers are economic hotspots that boost household incomes by over $2,000 and reduce poverty rates by as much as 1.35 percent — even more than major anti-poverty programs.[38]

U.S. farmers need more support to transition to organic
Our government subsidizes chemical-intensive industrial agriculture to the tune of billions of dollars a year, while organic programs and research are woefully underfunded.[39] As one example, less than one percent of federal agricultural research dollars go toward organic or other sustainable farming approaches.[40] As a result, American farmers are losing out. Consumer demand for organic food is growing by double digits each year, but U.S. production is not keeping pace.[41,42] The gap between U.S. demand and production is increasingly being filled by imports of crops that could be grown in the U.S.[43] We are the largest producer of soybeans in the world, but in 2016, we imported $250 million worth of organic soybeans and produced only $78.5 million worth.[44] In the same year, $410 million worth of organic grain that could have been grown in the U.S. was imported.[45] The U.S. accounts for 44 percent of the global organic consumer market but just five percent of global farmland under organic

production.[46] Data shows that more U.S. farmers are interested in transitioning to organic production, but they will need policies and market opportunities to help them do so.[47]

TOP 10 TRUTHS ABOUT PESTICIDES

The human cost of pesticides is devastating
Pesticides are poisons. The properties that make pesticides toxic to insects and weeds can also make them toxic to other forms of life, including humans. More than 90 percent of Americans have detectable pesticides in their bodies.[48] Decades of data clearly shows that pesticides can disrupt and derail the healthy functioning of our bodies.[49] Pesticides are linked to cancers, asthma, neurodevelopmental disorders like ADHD and learning disabilities and to adult neurological diseases like Alzheimer's and Parkinson's.[50,51,52,53] Pesticide exposure is also associated with reproductive disorders like infertility and other disorders related to the endocrine system like diabetes and obesity.[54,55] The list goes on. Farmers, farmworkers and rural communities are on the frontlines of exposure to pesticides. No one should have to sacrifice their health and their children's health to grow the food we all eat. An organic food system free of toxic pesticides is a human right.

The environmental cost of pesticides is catastrophic
Chemical agriculture is destroying the ecosystems that sustain all life. Pesticides are a key culprit in the decline of bees, butterflies and other pollinators — leading some scientists to warn of a "second silent spring."[56,57] Pesticides wreak havoc on the soil by killing the organisms that are the basis of soil life.[58] And they pollute rivers, lakes and oceans, leading to fish die-offs. Pesticides are the cornerstone of an industrial agriculture system that consumes fossil fuel, water and topsoil at unsustainable rates.[59] The United Nations estimates that industrial agriculture costs the world $3 trillion annually in environmental damage.[60] Eliminating dangerous chemicals and polluting practices from our food system is key to protecting vital natural resources like clean water and soil, healthy oceans and the biodiversity that is essential for producing food now and in the future.

Exposures to small amounts of pesticides matter
The chemical industry claims that the pesticide residues in our food, air and water are too small to affect us. But new research shows that very small exposures do matter. Consider the fact that chemicals prescribed by doctors to alter behavior, like the drug Ritalin, are active at levels that are the same or lower than some pesticides detected in children's bodies.[61] We now know that small amounts of pesticides can act like drugs and alter our brain development, hormones, immune systems and more. Chemicals that affect our hormone systems, called endocrine disrupting chemicals (EDCs), can be especially problematic at very low doses. EDCs may scramble, block or mimic the cellular mechanisms responsible for developing and managing the body's reproductive, neurological, metabolic or immunological systems. Endocrine disruptors are associated with hormone-influenced cancers such as thyroid, breast and prostate, as well as learning disabilities, brain development problems, birth defects, obesity, diabetes and reproductive disorders. Effects related to an EDC exposure can occur from a very small amount of a chemical, sometimes as low as a tenth of a trillion of a gram. That's as tiny as one second in 3,169 centuries. These low-dose effects can be different from the effects of higher doses. Over 50 pesticides are associated with endocrine disruption.[62]

Fetal development and infancy are periods of particular vulnerability
Timing of chemical exposure can be critically important, especially for chemicals that disrupt our endocrine systems. Fetal development and infancy are periods of particular susceptibility, as this is the time when young bodies are busy growing and cells are multiplying and

differentiating. The health effects of pesticide exposure during these stages can result in lifelong impacts, including ADHD, learning disabilities, autoimmune disorder and cancers later in life. Research has found over 20 pesticides in infant cord blood,[63] and nearly all children in the United States are exposed to pesticides through the foods they eat.[64] Children eat and drink more per pound of their body weight than adults, and they consume more foods that have higher amounts of pesticide residues like fruits, fruit juices and milk, so they are more exposed to pesticides. The American Academy of Pediatrics asserts that "children's exposure to pesticides should be limited as much as possible."[65] Other times of vulnerability include puberty, pregnancy and menopause/andropause — all periods of time when the body is undergoing rapid changes.[66]

Legal limits for residues on food do not adequately protect those most vulnerable
While the Environmental Protection Agency sets legal limits, referred to as "tolerances," for pesticide residues on food, many scientists and medical professionals say that these limits are outdated and may not be set low enough to protect people who are the most vulnerable, including infants and children. Scientific data also shows health problems resulting from exposure to pesticides at levels below these legal limits.[67] Safety standards for pesticides are designed to apply to the general public, but scientists agree that everyone's body, basic health status and genetic inheritances are different, and each individual may react differently to a toxic chemical exposure.

Regulations fail to account for the toxic cocktail of pesticides we're exposed to
Safety standards are set pesticide-by-pesticide. But we are never exposed to just one pesticide at a time. Consider strawberries: the USDA found that nearly one-third of chemically-grown strawberries had residues from 10 or more different pesticides.[68] And the average American has traces of at least 29 different pesticides in their body.[69] Regulations don't take into account that each individual is exposed to hundreds of different pesticides and other toxic chemicals through diet, inhalation of air and absorption through the skin, creating a mixture of chemicals present in the body. Even if the level of each chemical exposure is below a safety standard, mixtures of small amounts of chemicals can have an additive "punch" in total toxicity.[70] This total toxicity can be greater than the sum of each toxic factor of each chemical. Scientists are just beginning to understand what mixtures of pesticides we may carry in our bodies and how these mixtures may act synergistically.[71] One study found that approximately 40 percent of children may be exposed to a cumulative amount of nerve agent pesticides called organophosphates at levels beyond those associated with neurological harm like ADHD and learning disabilities.[72]

The U.S. allows pesticides that have been banned or restricted in other countries
American farmers use over one billion pounds of pesticides annually, including pesticides that have been restricted or banned in other countries because they are known to be toxic to people, pollinators and other living things. These include the hormone-disrupting weed-killer atrazine, the known brain-damaging insecticide chlorpyrifos and the class of chemicals known as neonicotinoids, which have been connected to massive pollinator losses and bee die-offs. The European Union has banned or restricted 246 pesticides, many of which are widely used in the United States. There are an estimated 17,000 pesticide products approved for the market in the U.S.[73]

There are more pesticides on our food now
The latest data from the U.S. Department of Agriculture found pesticide residues on approximately 85 percent of the thousands of fruit and vegetable samples they tested. That is an increase from 59 percent in 2014.[74] Before testing, USDA scientists wash and prepare the samples as you would at home, showing that many foods still have pesticide residues even after being washed.

GMOs dramatically increase the use of hazardous pesticides
When you hear "GMOs," think "pesticides." Despite the many traits a scientist might engineer into a plant, just over 98 percent of all GMO crops grown in the U.S. are engineered to resist pesticides, primarily glyphosate (Monsanto's RoundUp).[75] The vast majority of GMOs planted globally are also those with pesticide-tolerant traits. That's no coincidence: the companies that sell GMO seeds also sell pesticides, making GMOs a highly profitable business model. These companies earn revenue on the GMO seed sales and on the chemical sales that go hand-in-hand with those seeds. It's a business model that leads to billions in profit for corporations like Bayer-Monsanto and DowDuPont at the expense of our health and the environment. Since Monsanto's GMO RoundUp Ready© crops were introduced in the 1990s, glyphosate use has increased over 600 percent and is now the most heavily-used agricultural chemical in the history of the world.[76,77] Glyphosate is linked to cancer according to the most reputable international cancer research body in the world, the World Health Organization's International Agency for Research on Cancer and is listed in California as a known carcinogen.[78,79]

We need to get off the pesticide treadmill
Since the widespread introduction of pesticides to agriculture in the 1950s, experts predicted that insects and weeds would develop resistance.[80] Worldwide, approximately 368 weed varieties and 540 insect species have developed resistance to pesticides.[81] This has created a "pesticide treadmill" in which farmers spray more often and use more toxic pesticides to deal with resistant pests. Ninety percent of Iowa farmers reported feeling that "pest management is a never-ending technology treadmill" in a 2014 poll.[82] Despite the increasing use of pesticides, farmers are losing more of their crops to pests today than they did in the 1940s.[83]

"Superweeds" now plague more than 60 million acres of U.S. farmland.[84] These weeds are resistant to glyphosate, the key ingredient in Monsanto's RoundUp herbicide used with RoundUp Ready© GMO corn, soy, canola and cotton. In response, the pesticide industry is doubling down on this failed approach. The latest GMO seeds are engineered to resist two weedkillers with resistance to as many as five planned. Monsanto (now owned by Bayer) invested nearly $1 billion in a factory to revive production of dicamba, an herbicide developed in the 1940s that has been linked to increased risk of a non-Hodgkin's Lymphoma, reproductive problems and genetic damage.[85,86] When Monsanto started selling dicamba-resistant GMO seeds in 2017, there was massive farmer outcry across the country because farmers who chose not to use dicamba-resistant seeds suffered damage to their crops due to pesticides drifting over their fields. Over 3.6 million acres of crops across 25 states were damaged.[87]

Pesticide-intensive agriculture is a losing battle. Especially when research shows that *reducing* pesticide use can increase crop yields.[88,89] Farmers who transition to organic agriculture get off the pesticide treadmill altogether. Organic farmers work with nature to disrupt pest cycles by using crop rotations, fostering natural predators of pests, increasing crop diversity and planting "trap" crops that draw insects to the edges of fields.

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