Pro Case

**Research Professor and film-maker Raj Patel once said: “Far from being a “luxury for the rich,” organic farming may turn out to be a necessity not just for the poor, but for everyone.” It is because we agree with these words, and believe that organic farming will be essential to solve our nation’s largest problems, my partner and I affirm the resolution of today’s debate: Resolved: In the United States, the benefits of increasing organic agriculture outweigh the harms. We will present two contentions to prove why organic agriculture’s rise will benefit the United States and the world.**

**Contention 1: Organic agriculture alleviates harmful effects of climate change.**

**One of the most important issues facing our society is climate change. Humanity’s reliance on greenhouse gasses is responsible for dramatic changes in our ecosystems, causing the extinction of numerous species of plants and animals, and even increasing our risks for severe weather and sea level rise. And this problem will only get worse. Kimberly Amadeo, president of World Money Watch, writes in 2021 that:**

(Kimberly Amadeo is president of World Money Watch. “The Green New Deal and How it Boosts the Economy.” The Balance, 23 March 2021)

In October 2018, the United Nations international climate science panel released an alarming report. It found that the effects of global warming could become irreversible by 2030 without rapid action. The West Antarctic ice sheet could melt, raising sea levels another 4 inches. Without the ice sheet to reflect the sun's rays, oceans would absorb even more heat. That would melt more ice, worsening the heating cycle. At least 100 million people would die from increased heat waves, drought, and infectious diseases. The heat would also kill off 90% of the world's coral reefs.

**Organic agriculture, however, provides a solution that could dramatically slow, or even reverse climate change. Organic farms reduce climate change through carbon sequestration, the process of absorbing CO2 from the atmosphere. Crops absorb carbon dioxide for energy, and, once they decay, transfer that CO2 into the soil, where it is consumed by bacteria and fungi. This process traps carbon dioxide in the ground, preventing it from acting as a greenhouse gas. However, industrial chemicals kill off the microorganisms responsible for trapping CO2 underground, resulting in more carbon being released into the atmosphere. A meta-analysis of more than 4,000 scientific studies found that by switching to organic agriculture, farmers can increase carbon sequestration, and reduce the risk of climate change. According to Sally Ho in 2021:**

(Sally Ho is the lead writer for Green Queen. “Organic Farming Practices Could Boost Carbon Sequestration By Double-Digits, New Study Finds.” Green Queen, 22 March 2021)

Organic farmers could be amplifying their positive climate impact by adopting the best agricultural practices to boost carbon sequestration. The study, undertaken by scientists at the University of Maryland in collaboration with Washington D.C.-based nonprofit research organisation The Organic Center and published in the journal Agriculture, Ecosystems and Environment, found that the amount of carbon captured in soil increased by 18%, while the amount of microbial biomass carbon storage went up by 30%. Over 4,000 scientific articles were included in the meta-analysis led by Professor Kate Tully and Dr. Rob Crystal-Ornelas to identify the specific carbon-building techniques that farmers could implement. Examining different practices such as the use of organic soil amendments, conservation tillage and cover crops, the researchers found that best practices in organic soil amendments, such as compost and manure, had the biggest and fastest impact on carbon sequestration – by an average of 24%.

**The rise of organic agriculture will be essential to combat rising climate change, and prevent its catastrophic harms.**

**Contention 2: Organic agriculture reduces chemical runoff.**

**Another major problem with industrial agriculture is its excessive use of synthetic fertilizers and pesticides. Relying on these chemicals is dangerous, as the fertilizer that we plan to use for crops is carried through groundwater into lakes, rivers, and oceans. This pollution has disastrous consequences for local ecosystems. As Professor Bernd Lennartz writes in 2020:**

(Bernd Lennartz is a Professor of Soil Physics at Rostock University. “Developing solutions to agricultural runoff and water contamination.” Innovation News Network, 30 June 2020)

Nitrogen- and phosphorus-based fertilisers fuel our agriculture and ensure a stable crop production. Negative side effects of such an intensive agriculture may, however, compromise environmental assets, especially soil and water resources. High nutrient concentrations in lakes and oceans alike boost annual algae blooms with often disastrous consequences. Algae blooms can be extensive, some of them visible even from space (see Fig. 1). The produced algae biomass eventually sinks to the seafloor, where its bacterial decomposition consumes oxygen. When the oxygen is depleted entirely, the sea floor turns into a ‘dead zone’ where it is nearly impossible for any life to survive. Expanding dead zones as a result of eutrophication processes have been reported for the Baltic Sea and the Gulf of Mexico alike (van Meter et al., 2018).

**The creation of “dead zones'' in our oceans is a seriously overlooked crisis. As our oceans lose their ability to sustain life, we will see mass extinctions of fish and aquatic plants. This will not only jeopardize our environment, but coastal communities as well. According to Damian Carrington in 2018:**

Damian Carrington is an Environment Editor at The Guardian. “Oceans suffocating as huge dead zones quadruple since 1950, scientists warn.” The Guardian, 4 January 2018)

Ocean dead zones with zero oxygen have quadrupled in size since 1950, scientists have warned, while the number of very low oxygen sites near coasts have multiplied tenfold. Most sea creatures cannot survive in these zones and current trends would lead to mass extinction in the long run, risking dire consequences for the hundreds of millions of people who depend on the sea. Climate change caused by fossil fuel burning is the cause of the large-scale deoxygenation, as warmer waters hold less oxygen. The coastal dead zones result from fertiliser and sewage running off the land and into the seas. The analysis, published in the journal Science, is the first comprehensive analysis of the areas and states: “Major extinction events in Earth’s history have been associated with warm climates and oxygen-deficient oceans.” Denise Breitburg, at the Smithsonian Environmental Research Center in the US and who led the analysis, said: “Under the current trajectory that is where we would be headed. But the consequences to humans of staying on that trajectory are so dire that it is hard to imagine we would go quite that far down that path.” “This is a problem we can solve,” Breitburg said. “Halting climate change requires a global effort, but even local actions can help with nutrient-driven oxygen decline.” She pointed to recoveries in Chesapeake Bay in the US and the Thames river in the UK, where better farm and sewage practices led to dead zones disappearing.

**Fortunately, organic agriculture can resolve this issue. Organic farms prevent new nitrogen from entering the environment. According to research sponsored by the University of Virginia and the Organic Center in 2020:**

(“Press Release: Organic agriculture – the recycling bin for nitrogen.” Organic Center, 9 April 2020. https://www.organic-center.org/research/press-release-organic-agriculture-%E2%80%93-recycling-bin-nitrogen)

Organic agriculture does not use synthetic fertilizer. Instead, all the nitrogen on organic farms comes from recycled sources like compost, or a small amount of new reactive nitrogen from nitrogen-fixing bacteria in the roots of cover crops or other legumes. Those same sources also build a complex and rich soil able to hold onto nitrogen longer rather than just allowing it to run off the field. The results of this study show that not only is organic adding significantly less to the global pool of reactive nitrogen, it can also help put nitrogen waste that could otherwise contribute to nitrogen pollution back into food production. By using manure and food waste as fertilizer, organic helps keep nitrogen losses from other farm systems from entering the environment.

**Organic agriculture, by reusing and recycling its nitrogen, reduces agricultural runoff and solves the problems of oceanic dead zones that risk destroying our communities. Not only this, organic agriculture will be essential to prevent catastrophic climate change. For these reasons, we ask for a pro ballot in today’s debate.**

**For these reasons we affirm**

Con Case

**Former President and Founding Father Thomas Jefferson once said: “Agriculture is our wisest pursuit, because it will in the end contribute most to real wealth, good morals & happiness.” We agree with these words, but believe that organic agriculture will only undermine the wealth, sustainability, and overall functioning of our farming system, we negate the resolution of today’s debate: Resolved: In the United States, the benefits of increasing organic agriculture outweigh the harms.**

**Contention 1: Organic farming reduces crop yields.**

**One of the biggest flaws of organic agriculture is its lack of efficiency. Organic agriculture will inevitably produce less food than conventional farming, due to its rejection of modern farming practices and technologies. This translates into major losses in crop yields. According to Henry Miller, a fellow at Stanford University, and Richard Cornett, a communication director for the Western Planet Health Association:**

(Henry I. Miller is a fellow at Stanford University and Richard Cornett is a communications director for the Western Planet Health Association. “The unsustainability of organic farming.” CNBC, 20 June 2014)

A fundamental reason that organic food production is far less "sustainable" than many forms of conventional farming is that organic farms, though possibly well adapted for certain local environments on a small scale, produce far less food per unit of land and water. The low yields of organic agriculture – typically 20-50% below conventional agriculture – impose various stresses on farmland, especially on water consumption. A British meta-analysis published in 2012 identified some of the stresses that were higher in organic agriculture. For example, it found that "ammonia emissions, nitrogen leaching, and nitrous oxide emissions per product unit were higher from organic systems," as were "land use, eutrophication potential, and acidification potential per product unit." Lower crop yields in organic farming are largely inevitable, owing to the arbitrary rejection of various advanced methods and technologies. Organic practices afford limited pesticide options, create difficulties in meeting peak fertilizer demand, and rule out access to genetically engineered varieties. If organic production were scaled up significantly, the lower yields would lead to greater pressure to convert land to agricultural use and produce more animals for manure, to say nothing of the tighter squeeze on water supplies – all of which are challenges to sustainability.

**Organic agriculture simply cannot produce enough food to meet our needs. There are two impacts to this. First is widespread hunger. As we produce less crops, we will see less supply and higher prices, resulting in more Americans going hungry. For proof, we only need to look at what has happened throughout the COVID pandemic. Parija Kavilaz, a senior writer for CNN Business, writes that:**

(Parija Kavilanz is a senior writer for CNN Business. “Hunger in America could get worse as supply chains tighten.” CNN Business, 21 January 2022.)

Higher grocery prices have hurt consumers, but many Americans are also struggling to fill their shopping baskets with weekly staples like milk, eggs and packaged foods as pandemic-triggered labor shortages and other supply chain problems prevent stores from restocking quickly and efficiently. That's at the grocery store level. For food pantries and food banks like the one Allen runs, the problem becomes even more consequential because they rely heavily on subsidized bulk food purchases and food donations from stores and other providers to build adequate supply to meet the needs of the community. An industrywide supply crunch means the volume of donated supplies also dips. "It will significantly impact our ability to provide healthy food to people who need the assistance right now. And there are many," said Allen. Between Thanksgiving and Christmas of 2021, Beyond the Sanctuary gave out 1,061 food baskets. That's just one snapshot of the local need for food assistance in Allen's community. The pandemic, she said, has amplified the need to a much greater extent. Feeding America, which operates 200 food banks across the country, estimates that as many as 42 million Americans (1 in 8), including 13 million children (1 in 6), may have experienced food insecurity in 2021. That compares to 35 million people, including 11 million children in 2019 when the overall food insecurity rate was the lowest it had been in more than twenty years, according to the non-profit. There's a risk that as food becomes more expensive and harder to stock up, hunger in America will worsen and will disproportionately impact low-income families more because of inequities in the system, said Nancy Roman, president and CEO of the Partnership for a Healthier America (PHA).

**If organic agriculture became the norm, these temporary supply chain issues would become permanent, and would get worse every year as our population grows.**

**Stopped using !!**

**And this effect spreads beyond the United States. Any reduction in our food supply would also create a drop in our food exports, spiking food prices in other countries. According to Lieutenant General John Castellaw in 2017:**

(John Castellaw is a Lieutenant General and former President of the non-profit Crockett Policy Institute “Opinion: Food Security Strategy Is Essential to Our National Security.” Agri-Pulse, 1 May 2017)

An American Food Security Strategy is an imperative factor in reducing the multiple threats impacting our National wellbeing. Recent history has shown that reliable food supplies and stable prices produce more stable and secure countries. Conversely, food insecurity, particularly in poorer countries, can lead to instability, unrest, and violence. Food insecurity drives mass migration around the world from the Middle East, to Africa, to Southeast Asia, destabilizing neighboring populations, generating conflicts, and threatening our own security by disrupting our economic, military, and diplomatic relationships. Food system shocks from extreme food-price volatility can be correlated with protests and riots. Food price related protests toppled governments in Haiti and Madagascar in 2007 and 2008. In 2010 and in 2011, food prices and grievances related to food policy were one of the major drivers of the Arab Spring uprisings. Repeatedly, history has taught us that a strong agricultural sector is an unquestionable requirement for inclusive and sustainable growth, broad-based development progress, and long-term stability. ​​The impact can be remarkable and far reaching. Rising income, in addition to reducing the opportunities for an upsurge in extremism, leads to changes in diet, producing demand for more diverse and nutritious foods provided, in many cases, from American farmers and ranchers. Emerging markets currently purchase 20 percent of U.S. agriculture exports and that figure is expected to grow as populations boom.

**Contention 2: Organic farms increase the exploitation of farm workers**

**Advocates often describe how organic agriculture is beneficial to the environment, but they neglect how organic farms treat the humans growing their food. Because organic agriculture rejects modern biotechnology, it requires substantially more labor than traditional farms, leading to the exploitation of farm laborers. As Nicholas Karavolias, PhD candidate at UC Berkeley, writes in 2019:**

(Nicholas Karavolias is a PhD student in Plant Biology and Agricultural Science at UC Berkeley

“Organic food is booming, but it’s grinding field laborers into the dirt.” Massive Science, 9 May 2019)

Hidden beneath the sheen of vibrant produce is a darker reality. Contrary to popular belief, organic farms are allowed to use pesticides. (The only caveat is that the chemicals have to be naturally derived, unlike the synthetic pesticides used in conventional production). Organic food often still uses organically-certified pesticides, which may impact both the health of the food and the health of the people growing it. Organic produce is in high demand these days, particularly among health- and environmentally-conscious consumers The problems extend well beyond potential pesticide exposure. Synthetic pesticides and genetically modified crops are effective—by choosing not to use them, organic agriculture requires more manually-intensive labor—sometimes as much as 35 percent more. Herbicides used in organic farming are often less effective at eradicating weeds, requiring more physical weeding. Because organic farms don’t use as much fertilizer, cover crops are needed to enhance soil nitrogen levels—which in turn increases the amount of labor time invested in each field. These are just a few examples of the many ways labor multiplies in organic systems: A comparison of physical work hours required per acre of tomatoes, for instance, found that organic systems required 34 percent more labor than conventional systems. (Pumpkins required 13 percent more, and sweet corn, seven.) Increased labor requirements in organic systems—the need to do more by hand, rather than relying on chemicals—creates the possibility for farmworkers to be exploited.

**Because of its reliance on intense manual labor, organic agriculture is dependent on the exploitation of farm workers. Not only will these workers be required to perform more back-breaking labor, but they also frequently do so without pay. In order to stay profitable, organic farms are essentially required to underpay their workers, as the increased manual labor would make operating costs skyrocket. Not only this, but small farms are exempt from U.S. labor laws. It’s no wonder, then, that labor exploitation is endemic on organic farms. Editor Natalie Childs writes in 2015:**

(Natalie Childs is an editor of Guts Magazine. “The Fruits of Unpaid Labour.” Guts, 10 November 2015)

In one crucial respect, however, the organic movement is failing its commitment to creating a more resilient food system: its regressive approach to labour. The instances of unwaged labour on small organic farms are much higher than on conventional farms: one study found that, in Ontario, 65 percent of workers on small-to-medium scale ecological farms\* are non-waged (making less than minimum wage), while the provincial average for the entire agriculture sector is 4 percent. That means that if you’re buying organic in Ontario (and the rest of the country), it’s a safe assumption that some of the people who grew your food were not paid for their work.

**Although organic agriculture may claim to benefit the environment, it fails to protect the human communities that our food systems serve. Organic agriculture relies on the systematic exploitation of workers, and allows for continued hunger and malnutrition in the U.S. and abroad. For those reasons, we ask for a Con ballot in today’s debate.**

**Didn’t Use!**

**Land use hurts environment**

(James Temple is the senior editor for energy at MIT Technology Review. “Sorry—organic farming is actually worse for climate change.” MIT Technology Review, 22 October 2019.)

Organic practices can reduce climate pollution produced directly from farming – which would be fantastic if they didn’t also require more land to produce the same amount of food. Clearing additional grasslands or forests to grow enough food to make up for that difference would release far more greenhouse gas than the practices initially reduce, a new study in Nature Communications finds. Other recent research has also concluded that organic farming produces more climate pollution than conventional practices when the additional land required is taken into account. In the new paper, researchers at the UK’s Cranfield University took a broad look at the question by analyzing what would happen if all of England and Wales shifted entirely to these practices.

**For these reasons we negate**