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S: According to... Prof. Robert Paarlberg, Harvard University, Harvard Gazette, February 2, 2021 34

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PRO Evidence (Environment)

PRO: Preventing Water Pollution (regulations require avoiding harmful chemicals)

S: According to... *Environmental Conscience*, Last Accessed: April 2022

<https://environmental-conscience.com/organic-farming-pros-cons/>

Q: It states...

Less groundwater pollution: Since the chemicals from pesticides, herbicides and fungicides will contaminate the soil, they will also eventually end up in our groundwater. This could lead to significant problems since millions of people rely on groundwater in order to get water for their daily life. Water will become an even scarcer resource in the future due to global warming. Therefore, it is crucial that we refrain from the use of chemical substances in agriculture and switch to organic elements instead in order to protect our groundwater and to ensure the livelihood of millions or even billions of people on our planet.

PRO: Protecting Biodiversity (ex. Insect facing extinction from harmful chemicals)

S: According to... *Environmental Conscience*, Last Accessed: April 2022

<https://environmental-conscience.com/organic-farming-pros-cons/>

Q: It states...

Protection of insects: Also our insects suffer quite a lot due to the excessive use of chemical fertilizers and pesticides. These substances often contain elements which are quite harmful to insects and insect population vastly decrease in these areas. In order to sustain our insect population, it is crucial to reduce the use of chemical substances in agriculture and to use natural fertilizers and pesticides instead. By doing so, we can not only protect many insect species from extinction, but we can also increase our crop yields since insects are a major factor for the pollination of crops.

PRO: Organic Increases Sustainability (ex. Protecting Soil from contamination)

S: According to... *Environmental Conscience*, Last Accessed: April 2022

<https://environmental-conscience.com/organic-farming-pros-cons/>

Q: It states...

More sustainable: Organic gardening can also be considered to be more sustainable compared to traditional farming practices. Since less or even no pesticides are used at all, the soil will be protected and will be suitable for farming purposes much longer. Therefore, soil that is used for organic farming will be suitable for hundreds or even thousands of years, while soil that is used for conventional agriculture will soon become too contaminated and will lose its fertility in the long run.

PRO: Reducing Waste Protects Resources (ex. Organic farming waste can be recycled and reused)

S: According to... *Environmental Conscience*, Last Accessed: April 2022

<https://environmental-conscience.com/organic-farming-pros-cons/>

Q: It states...

Organic garbage can be composted and reused: Our natural resources can also be used more efficiently through organic gardening. For instance, natural materials like plant waste can be composted and reused as soil or fertilizer for the next year. Every item that can be reused implies an improvement in efficiency since our resources are used more efficiently compared to just disposing them into the garbage after just a single-use. Therefore, organic gardening can also reduce the overall waste levels since more of our waste can be recycled and reused.

PRO: Reducing Global Warming (ex. Avoiding chemicals that contribute to global warming)

S: According to... *Environmental Conscience*, Last Accessed: April 2022

<https://environmental-conscience.com/organic-farming-pros-cons/>

Q: It states...

Better for our climate: Organic farming is also considered to be better for our climate compared to conventional agriculture. Chemical fertilizers are often produced with the help of fossil resources and fuels, which in turn contribute to global warming. By avoiding those chemical fertilizers through organic farming, we could avoid the emission of greenhouse gases and therefore also slow down global warming.



PRO Evidence (Environment): Continued...

PRO: Greater Environmental Sustainability (ex. Fewer chemicals reduces pollution and enhances biodiversity)

S: According to... Columbia Climate School, Columbia University, October 22, 2019

<https://news.climate.columbia.edu/2019/10/22/organic-food-better-environment/>

Q: It states...

Organic farming is widely considered to be a far more sustainable alternative when it comes to food production. The lack of pesticides and wider variety of plants enhances biodiversity and results in better soil quality and reduced pollution from fertilizer or pesticide run-off.

PRO: Conventional Farming Harms the Environment (ex. synthetic chemicals and pollution = threats to nature!)

S: According to... Columbia Climate School, Columbia University, October 22, 2019

<https://news.climate.columbia.edu/2019/10/22/organic-food-better-environment/>

Q: It states...

Conventional farming has been heavily criticized for causing biodiversity loss, soil erosion, and increased water pollution due to the rampant usage of synthetic fertilizers and pesticides. However, despite these glaring cons, scientists are concerned that organic farming has far lower yields as compared to conventional farming, and so requires more land to meet demand.

PRO: Global Warming Studies Irresponsible (ex. Two crops in one country for three years is insufficient)

S: According to... Columbia Climate School, Columbia University, October 22, 2019

<https://news.climate.columbia.edu/2019/10/22/organic-food-better-environment/>

Q: It states...

Soon after the paper was published and widely covered by various news organizations globally, several researchers criticized the study. Andrew Smith, a chief scientist at the Rodale Institute, lashed out in a post saying that it was "irresponsible to extrapolate a global phenomenon based on two crops grown in one country over three years."

PRO: Global Warming Studies Incomplete (ex. Lack of data - sample was too small)

S: According to... Columbia Climate School, Columbia University, October 22, 2019

<https://news.climate.columbia.edu/2019/10/22/organic-food-better-environment/>

Q: It states...

Smith also added that more data should be included and analyzed before making conclusions. Commenting on this, Wirsenius said, "It is true that we had a small comparison between organic versus conventional farming based on Swedish statistics. This is because Sweden is one of the very few countries that has statistics that include the yields from organic and conventional crops." "It would have been better with bigger sample size and that is a valid concern," he added.

PRO: Tremendously Beneficial to the Environment

S: According to... Conserve Energy Future, Last Accessed: April 2022

<https://www.conserve-energy-future.com/pros-and-cons-organic-farming.php>

Q: It states...

Organic farming is the use of agricultural production systems reliant on green manure, compost, biological pest control, and crop rotation to produce crops, livestock and poultry. Organic centered agricultural production system fosters the cycling of resources to conserve biodiversity and promote ecological balance. The use of green manure, cover crops, animal manure and soil rotation to interrupt the habitation of pests and diseases, improve soil fertility, and maximize the soil's biological activity are the primary aspects of organic farming.

PRO: Increased Environmental Sustainability

S: According to... Conserve Energy Future, Last Accessed: April 2022

<https://www.conserve-energy-future.com/pros-and-cons-organic-farming.php>

Q: It states...

Environmental sustainability: Achieving tremendous environmental sustainability mileage is the dream of every nation in the world. This can be partly be achieved by the use of organic farming. Research reveals that organic farming can provide impressive mechanisms for advancing ecological harmony, biodiversity, and biological cycles which are environmentally sustaining. For example, the primary objectives of organic farming are soil management and conservation, promoting nutrient cycle, ecological balance and conserving biodiversity.



PRO Evidence (Environment): Continued...

PRO: Improved Energy Efficiency

S: According to... *Conserve Energy Future*, Last Accessed: April 2022

<https://www.conserve-energy-future.com/pros-and-cons-organic-farming.php>

Q: It states...

On this account, it is evident that organic farming has the best interest of preserving the natural environment. Furthermore, since most organic farming production methods are energy efficient compared to traditional farming, it saves energy. The use of natural methods in place of chemicals also saves the world's water sources and lands from contamination and pollution.

PRO: Preventing Soil Contamination

S: According to... *Conserve Energy Future*, Last Accessed: April 2022

<https://www.conserve-energy-future.com/pros-and-cons-organic-farming.php>

Q: It states...

Better soil conservation and management: Organic farming highly relies on nourishing the soil naturally by the use of compost, natural powders and green manure. Crop rotation, intercropping and minimal tillage is also used to improve soil fertility, structure, and water holding capacity in organic farming. As a result, it helps to support the soil microbial activities that transform and release soil nutrients and conserves the soil in the long-term by cushioning against soil degradation.

PRO: Avoids Artificial (Synthetic) Chemicals

S: According to... *Economics Help*, December 3, 2019

<https://www.economicshelp.org/blog/153913/economics/organic-farming-pros-and-cons/>

Q: It states...

Organic farming avoids the use of artificial fertilizers and pesticides but relies on more traditional methods of fertilization and pest control, such as crop rotation, barrier nets and natural pest control.

PRO: Conventional Farming Poses Serious Risks to Biodiversity (ex. Threats to Bees and Insect Populations)

S: According to... *Economics Help*, December 3, 2019

<https://www.economicshelp.org/blog/153913/economics/organic-farming-pros-and-cons/>

Q: It states...

Minimizes the external cost of farming. The use of artificial pesticides and fertilizers can have side effects to the local environment. For example, there are concerns about a decline in the bee population, due to the increased use of toxic pesticides. "America's agricultural landscape is now 48 times more toxic to honeybees, and likely other insects, than it was 25 years ago, almost entirely due to widespread use of so-called neonicotinoid pesticides" (6 Aug, 2019, Nat. Geographic). Bees are vital to the well-being of the planet's ecosystem. Organic farming helps bees and insects by not using pesticides and providing more pollen from land which isn't kept as monoculture. The neo toxins currently used can stay in the environment for 1,000 days and are proving very damaging to insect population.

PRO: Increases Efficiency in Using Resources

S: According to... *Economics Help*, December 3, 2019

<https://www.economicshelp.org/blog/153913/economics/organic-farming-pros-and-cons/>

Q: It states...

Efficient use of resources. A principle of organic farming is to recycle resources. Rather than importing chemical fertilizers from abroad, organic farming seeks to improve the soil through crop rotation, the use of animal manure, compost and natural byproducts.

PRO: Conventional Methods Threaten Soil & Environment (Both are public goods not owned by anyone)

S: According to... *Economics Help*, December 3, 2019

<https://www.economicshelp.org/blog/153913/economics/organic-farming-pros-and-cons/>

Q: It states...

Soil and the environment is a public good. There is concern that conventional farming methods are steadily eroding the quality of soil. The soil is never rotated or given a chance to re-incorporate organic matter. As a result, farmers become more reliant on fertilizers and ever-heavier mechanical rotation to provide nutrition. A lack of organic matter also makes the soil more prone to drought. Conventional farming ignores the long-term impact on soil quality and is storing problems for future generations. Organic farming provides a long-term solution to soil management. It is estimated a third of the world's global soil is now degraded.



PRO Evidence (Environment): Continued...

PRO: Preventing Use of Synthetic Chemicals (Protects Nature from Pollution)

S: According to... Conserve Energy Future, Last Accessed: April 2022

<https://www.conserve-energy-future.com/pros-and-cons-organic-farming.php>

Q: It states...

In other words, organic farming does not allow the use of synthetic chemical fertilizers, antibiotics, herbicides, or pesticides. Thus, the objectives of organic farming is agricultural production of fibers, grains, vegetables, flowers, fruits, foods, and animal products such as milk, eggs and meat in the best natural way. Unlike other agricultural practices, organic farming performs better with regards to water and soil conservation, maintaining ecological balance, and utilization of renewable resources. On the contrary, it also has its drawbacks. Here are the pros and cons of organic farming.

PRO: Organic Farming Promotes Biodiversity (ex. Farmers avoid chemicals and use plants to ward off pests)

S: According to... Columbia Climate School, Columbia University, October 22, 2019

<https://news.climate.columbia.edu/2019/10/22/organic-food-better-environment/>

Q: It states...

"In India, organic farms grow lots of different crops at the same time. They grow plants that can naturally keep pests away and don't use powerful inputs like sulfur. Instead, the farmers use plants and biodiversity to help regulate their cropping systems," said McDermid. Indian farmers who grow organic crops also make their fertilizers by filling a field with legumes that they grow in rotations. Once the legumes have fully grown, the farmers manually plow them into the ground. That results in larger quantities of nitrogen being pumped into the soil, as opposed to only using manure or even worse, synthetic fertilizers.



PRO Evidence (Health)

PRO: Organic Produce is Fresher and Tastes Better (ex. Ripe produce tastes better than unripe food)

S: According to... *Environmental Conscience*, Last Accessed: April 2022

<https://environmental-conscience.com/organic-farming-pros-cons/>

Q: It states...

Organic food may taste better: Some advocates of organic gardening also claim that organic food tastes better compared to conventional food. This may be true since our organic food will often not be carried over long distances and will be rather sold close to the farm where it has been grown. Thus, vegetables and fruits can be harvested ripe. In contrast, our conventional vegetables and fruits are often carried over quite long distances and will often be harvested in an unripe state. Therefore, it is quite logical that organic food may taste better since the crops had more time to ripen on average.

PRO: Higher Concentration of Nutritional Value (More time for development)

S: According to... *Environmental Conscience*, Last Accessed: April 2022

<https://environmental-conscience.com/organic-farming-pros-cons/>

Q: It states...

Better nutrition values on average: Since organic fruits and vegetables often grow slower, they have more time to develop high levels of nutrients and other elements that are beneficial to human health. Thus, compared to vegetables and fruits that come from conventional farming, organic crops often contain a higher concentration of healthy substances.

PRO: GMOs Dangerous to Human Health (ex. many scientists believe GMOs are dangerous to our health)

S: According to... *Environmental Conscience*, Last Accessed: April 2022

<https://environmental-conscience.com/organic-farming-pros-cons/>

Q: It states...

No use of GMOs (genetically modified organisms): Another problem with conventional agriculture is that genetically modified plants are used quite frequently. However, these GMOs are considered to be dangerous for human health in the long run by many scientists. The use of GMOs might also pose a danger to our agricultural system since pests might be able to spread easier and the yield may significantly decrease in the long run. Hence, by using organic agriculture instead, we could avoid the GMO issue and the implied adverse effects.

PRO: Protecting Farm Workers Health (ex. Risk of lung cancer from excessive chemicals)

S: According to... *Environmental Conscience*, Last Accessed: April 2022

<https://environmental-conscience.com/organic-farming-pros-cons/>

Q: It states...

Better for the health of farmers: Organic farming may also be better for the health of farmers compared to traditional farming practices. Since traditional farming often involves the excessive use of chemical pesticides, herbicides and fungicides, farmers may be exposed to those substances and these substances may end up in the lungs of farmers where they can cause lung cancer or other serious health issues. Through organic farming, these adverse health effects could be avoided since there would be no use of chemical substances at all.

PRO: Conventional Farming Increases Health Risks (ex. Consuming chemicals from food)

S: According to... *Columbia Climate School, Columbia University*, October 22, 2019

<https://news.climate.columbia.edu/2019/10/22/organic-food-better-environment/>

Q: It states...

The gradual shift towards organic farming has been mainly because we as consumers have become increasingly concerned about the health impacts of accidentally consuming pesticides and chemical fertilizers. During the 1990s, the USDA first standardized the meaning of the term "organic" — basically, farmers do not use any form of synthetic fertilizers, pesticides, herbicides, or fungicides to grow their produce.

PRO: Reducing Health Risks from Chemicals

S: According to... *Conserve Energy Future*, Last Accessed: April 2022

<https://www.conserve-energy-future.com/pros-and-cons-organic-farming.php>

Organic products are poison-free: Organic farming does not use any kind of dangerous chemicals to keep away pests and diseases. All the practices are natural and thus do not harm the consumer. Aspects such as biomagnification is lessened via the practice of organic farming as chemical pesticides, fertilizers, herbicides, and artificial growth hormones are all prohibited on an organic farm. Therefore, organic food products are free of contamination with health harming chemical substances.



PRO Evidence (Health): Continued...

PRO: Organic Food is High in Nutrition

S: According to... *Conserve Energy Future*, Last Accessed: April 2022

<https://www.conserve-energy-future.com/pros-and-cons-organic-farming.php>

Q: It states...

High nutrition values: Organic food products contain very high nutritional content because they do not contain modified ingredients compared to the conventional agricultural food products. Another factor that makes them highly nutrition is that they are given time to develop and are provided with the best natural conditions for growth. The vitamin and mineral content of organic food products is always high as the soil life and health offers the most suitable mechanism for crops to access soil nutrients. Plus, healthy foodstuff simply means healthy people and better nourishment for a better living for both people and animals.

PRO: Organic Food Tastes Better

S: According to... *Conserve Energy Future*, Last Accessed: April 2022

<https://www.conserve-energy-future.com/pros-and-cons-organic-farming.php>

Q: It states...

Better taste: Apart from nutrition, the mineral and sugar structures in organic foods are tasty because the crops are given more time to develop and mature. The use of natural and environmentally friendly agricultural production techniques is revealed to be the reason for the better taste in organic food products. It is commonly reported that the taste of organic vegetables and fruits are of higher quality compared to those that are conventionally grown.

PRO: Improving Human Health

S: According to... *Conserve Energy Future*, Last Accessed: April 2022

<https://www.conserve-energy-future.com/pros-and-cons-organic-farming.php>

Q: It states...

Improved human health: Organic produce offers the safest products for human consumption compared to any other available food products. Organic products are high in nutrition content, they contain lower levels of chemicals, and they do not have modified ingredients. Besides, organic standards have set strict regulations to ensure all products that are labeled organic are truly organic in production and processing which ensure that they are free from synthetic chemicals components and genetically modified production technologies. Accordingly, organic products can improve human health by ensuring that the risks to diseases like infertility, cancer, and immunodeficiency are minimized.

PRO: Preventing Use of Synthetic Chemicals (Protecting People from Food Contamination)

S: According to... *Conserve Energy Future*, Last Accessed: April 2022

<https://www.conserve-energy-future.com/pros-and-cons-organic-farming.php>

Q: It states...

In other words, organic farming does not allow the use of synthetic chemical fertilizers, antibiotics, herbicides, or pesticides. Thus, the objectives of organic farming is agricultural production of fibers, grains, vegetables, flowers, fruits, foods, and animal products such as milk, eggs and meat in the best natural way. Unlike other agricultural practices, organic farming performs better with regards to water and soil conservation, maintaining ecological balance, and utilization of renewable resources. On the contrary, it also has its drawbacks. Here are the pros and cons of organic farming.

PRO: Organic Food is Much Healthier (ex. richer soil means more nutrients for food crops)

S: According to... *Economicshelp*, December 3, 2019

<https://www.economicshelp.org/blog/153913/economics/organic-farming-pros-and-cons/>

Q: It states...

Healthier food. Organic food grown in richer more organic soils has higher levels of micronutrients. Higher levels of total protein and higher levels of 8 out of 13 essential minerals analyzed—including magnesium, zinc, phosphorus, and potassium—than conventional oats. A study claimed the yield was up to 40% more in times of drought -- Rodale institute, 2018.



PRO Evidence (Environment): Continued...

PRO: Organic Food Reduces Cancer Risks (ex. No chemicals in crops that can pose serious health risks)

S: According to... *Economics Help*, December 3, 2019

<https://www.economicshelp.org/blog/153913/economics/organic-farming-pros-and-cons/>

Q: It states...

Also, there is a link between some chemicals and increased cancer risk for humans. Long-term exposure to chemicals, such as 'Roundup weedkiller' show a link to increased cancer risk. Organic veg reduces the long-term risk of repeated exposure to these chemicals. (WHO – glyphosate probably cancerous to humans).

PRO: Preventing Antibiotic Resistance (ex. Preventing overcrowding means healthier animals w/o medications)

S: According to... *Economics Help*, December 3, 2019

<https://www.economicshelp.org/blog/153913/economics/organic-farming-pros-and-cons/>

Q: It states...

Healthier animals. In conventional farming, animals are often kept in close proximity and fed antibiotics as a matter of course. This mass-use of antibiotics is contributing to increased resistance. In organic farming, antibiotics are only allowed if animals are sick.

PRO: Preventing Antibiotic Resistance (ex. Antibiotics, hormones, and steroids = not allowed)

S: According to... *Prof. Robert Paarlberg, Harvard University, Harvard Gazette*, February 2, 2021

<https://news.harvard.edu/gazette/story/2021/02/author-robert-paarlberg-argues-against-buying-organic/>

Q: He states...

The rules for organic farming do deliver some clear benefit in the livestock sector. Producers of organic meat, milk, and eggs are required to provide their animals with more space to move around, an important plus for animal welfare. Also, animal products cannot be labeled organic if the animals were fed or treated with antibiotics, which is good for slowing the emergence of resistant bacterial strains dangerous to human health. Yet even for livestock the organic rule malfunctions, since the animals can only be given feeds grown organically, and organic corn and soy have lower yields per acre, so more land must be planted and plowed.

This means... increasing organic agriculture will prevent dangerous strains of resistant bacteria, which severely threatens public health.



PRO Evidence (Economics/Food Security)

PRO: Organic Farming Can Feed the World

S: According to... Rodale Institute, May 14, 2019

<https://rodaleinstitute.org/blog/can-organic-feed-the-world/>

The truth is that yes, organic can feed the world! Organic can compete with conventional yields and outperform conventional in adverse weather. Small farmers using organic methods have huge potential to expand global food production. And only organic methods actively regenerate resources and protect the environment from pollution and toxic waste. For a healthy future, we can't afford anything less.

PRO: Organic Options Save Money (ex. Homegrown Food is both healthy and inexpensive)

S: According to... Environmental Conscience, Last Accessed: April 2022

<https://environmental-conscience.com/organic-farming-pros-cons/>

Saving money if you grow your own organic plants: You can also save yourself plenty of money in the long run by growing your own vegetables and fruits in your garden or on your balcony. Most plants like tomatoes or peppers are quite resistant and do not require plenty of maintenance to grow well. Therefore, you can get significant yields in a rather simple way and can save plenty of money since you do no longer have to buy those fruits and vegetables in the grocery store.

PRO: Conventional Methods Threaten Food Security

S: According to... Conserve Energy Future, Last Accessed: April 2022

<https://www.conserve-energy-future.com/pros-and-cons-organic-farming.php>

Q: It states...

Food security: The demand against the supply of food has always been disproportionate due to the effects of climate change and poor farming practices that cause poor crop produce. Various people around the globe are facing starvation and lack enough food supply as there is a general shortage of safe and nutritious food to satisfy food preferences and dietary needs for a healthy and active life.

PRO: Organic Durability Increases Food Security

S: According to... Conserve Energy Future, Last Accessed: April 2022

<https://www.conserve-energy-future.com/pros-and-cons-organic-farming.php>

Q: It states...

This means that many people risk suffering the consequences of food insecurity. In the pillars of food security, a recent study in Science-Digest stressed that promotion of organic farming can intensify yield production particularly in poor countries where inputs for conventional agriculture are highly expensive, thus contributing to increased food security. This is attributed to the fact that organically grown plants are more durable, have higher resistance to pest and diseases, and are equally drought tolerant.

PRO: GMOs Threaten Food Security (ex. Increased pests and reduced yields in the long run)

S: According to... Environmental Conscience, Last Accessed: April 2022

<https://environmental-conscience.com/organic-farming-pros-cons/>

Q: It states...

No use of GMOs (genetically modified organisms): Another problem with conventional agriculture is that genetically modified plants are used quite frequently. However, these GMOs are considered to be dangerous for human health in the long run by many scientists. The use of GMOs might also pose a danger to our agricultural system since pests might be able to spread easier and the yield may significantly decrease in the long run. Hence, by using organic agriculture instead, we could avoid the GMO issue and the implied adverse effects.

This means... Increasing organic agriculture would reduce GMOs and protect the food security of billions of people!

PRO: Organic Farming Creates Tremendous Savings

S: According to... Conserve Energy Future, Last Accessed: April 2022

<https://www.conserve-energy-future.com/pros-and-cons-organic-farming.php>

Q: It states...

Lower input costs: Organic farming does not involve the use of expensive agrochemicals as they are highly forbidden. Organic crops also have better resistance to pest and diseases. When these components are combined together, they considerably save farmers on the costs of using expensive fungicides, pesticides, and insecticides. Fertilizers are created by green manuring or composting and yields are increased by the use of crop rotation, cover cropping and soil rotation. These practices typically lower the costs of crop and animal production unlike the case in conventional agricultural production techniques.



PRO Evidence (Economics/Food Security): Continued...

PRO: Excellent Economic Growth Potential

S: According to... *Economics Help*, December 3, 2019

<https://www.economicshelp.org/blog/153913/economics/organic-farming-pros-and-cons/>

Q: It states...

Organic food is a big growth area for consumer demand. Once thought to be the preserve of the wealthy or eco-eccentrics, organic food is going mainstream with many people from across the spectrum wishing to purchase organic food.

PRO: Organic Farming is More Profitable

S: According to... *Economics Help*, December 3, 2019

<https://www.economicshelp.org/blog/153913/economics/organic-farming-pros-and-cons/>

Q: It states...

Despite the demand for organic food growing strongly, In the US only 0.7% of farms are organic (2012 census). It means that for organic food, the US (and UK) are reliant on food imports. (Source: Agrivi.com) This increase in demand greater than supply is helping organic food to be more profitable.

PRO: Conventional Farming Experiences Declining Production Rates

S: According to... *Economics Help*, December 3, 2019

<https://www.economicshelp.org/blog/153913/economics/organic-farming-pros-and-cons/>

Q: It states...

The JRC noted that decreasing productivity can be observed on 20% of the world's cropland, 16% of forest land, 19% of grassland, and 27% of rangeland. "Industrial agriculture is good at feeding populations, but it is not sustainable. It's like an extractive industry, said Louise Baker, external relations head of the UN body. --Guardian Sep 2017

PRO: Higher Potential for Profits

S: According to... *Economics Help*, December 3, 2019

<https://www.economicshelp.org/blog/153913/economics/organic-farming-pros-and-cons/>

Q: It states...

Potential profits. Currently, the demand for organic food is growing faster than supply. Countries like the UK and US have to import organic food from abroad. (often developing economies) Some organic methods are more costly (labor-intensive weeding) but also some costs are saved (cost of chemicals). "Overall, organic farms tend to have better soil quality and reduce soil erosion compared to their conventional counterparts. Organic agriculture generally creates less soil and water pollution and lower greenhouse gas emissions, and is more energy efficient. Organic agriculture is also associated with greater biodiversity of plants, animals, insects and microbes, as well as genetic diversity." --Professor Reganold

PRO: Organic Farming Boosts Yields (ex. reducing resources and pollution while increasing food production)

S: According to... *Columbia Climate School, Columbia University*, October 22, 2019

<https://news.climate.columbia.edu/2019/10/22/organic-food-better-environment/>

Q: It states...

McDermid said that in some areas of the developing world, organic farming can actually boost yields over conventional farming because it doesn't rely on so much water and chemical inputs. These practices also build soil fertility and lead to less pollution.



PRO Evidence (Ethics ex. Animal Cruelty)

PRO: Clear Benefits to Animals (ex. More space = better welfare)

S: According to... Prof. Robert Paarlberg, Harvard University, Harvard Gazette, February 2, 2021

<https://news.harvard.edu/gazette/story/2021/02/author-robert-paarlberg-argues-against-buying-organic/>

Q: He states...The rules for organic farming do deliver some clear benefit in the livestock sector. Producers of organic meat, milk, and eggs are required to provide their animals with more space to move around, an important plus for animal welfare. Also, animal products cannot be labeled organic if the animals were fed or treated with antibiotics, which is good for slowing the emergence of resistant bacterial strains dangerous to human health. Yet even for livestock the organic rule malfunctions, since the animals can only be given feeds grown organically, and organic corn and soy have lower yields per acre, so more land must be planted and plowed.

This means... increasing organic farming will reduce and prevent the mistreatment of animals and the harms of animal overcrowding.

PRO: Farm Cruelty to Animals is Legal (ex. Investigative Journalism)

S: According to... Vox News, March 9, 2022

<https://www.vox.com/future-perfect/2022/3/9/22967328/animal-cruelty-laws-state-federal-exemptions-pennsylvania-martin-farms-dairy-calves-dehorning>

Q: It states...

During her stint, Wing captured a variety of horrors on film. Some were inhumane but legal and not uncommon in the dairy industry, like removing calves' horns —which is done to prevent the horns from injuring workers — without pain mitigation like anesthesia or anti-inflammatory drugs. But she also documented acts of cruelty that seemed wholly gratuitous, like employees beating, stomping on, and kicking cows, and many others I'll omit for the sake of readers' peace of mind.

This means... if we increase organic farming, then there will be less overcrowding of animals and specific rules to prevent the harm of animals – it might be "legal" to harm them, but this would not be allowed under organic rules.

PRO: Nine Billion Animals Exposed to Abuse

S: According to... Vox News, March 9, 2022

<https://www.vox.com/future-perfect/2022/3/9/22967328/animal-cruelty-laws-state-federal-exemptions-pennsylvania-martin-farms-dairy-calves-dehorning>

Q: It states...

And with 9 billion animals churning through the meat, dairy, and egg industries each year and just a handful of undercover investigators documenting how they're treated, consumers and policymakers are left in the dark. This system persists because farmed animals are largely invisible in the law.

PRO: Animal Welfare Laws Fail to Protect Farm Animals

S: According to... Vox News, March 9, 2022

<https://www.vox.com/future-perfect/2022/3/9/22967328/animal-cruelty-laws-state-federal-exemptions-pennsylvania-martin-farms-dairy-calves-dehorning>

Q: It states...

The Animal Welfare Act, which sets minimum standards for animals used in zoos or research or sold as pets, specifically exempts animals raised for food. The Humane Methods of Slaughter Act and the 28-Hour Law (the latter which covers farmed animals in transport) are weakly enforced, and both exempt poultry, which make up 98 percent of US land animals raised for food.

PRO: Conventional Farming Generally Harmful to Animals

S: According to... The Humane League, January 5, 2021

<https://thehumaneleague.org/article/factory-farming-animal-cruelty>

Q: It states...

HOW DOES FACTORY FARMING AFFECT ANIMALS?: On factory farms, animals are subjected to routine mutilations, extreme confinement, and are otherwise manipulated to benefit human consumers. These practices are generally harmful to the animals. Below are a few ways that factory farming affects animals.



PRO Evidence (Ethics - Animals): Continued...

PRO: Confinement is Harmful to Animals

S: According to... *The Humane League, January 5, 2021*

<https://thehumaneleague.org/article/factory-farming-animal-cruelty>

Q: It states...

A lifetime of confinement is unnatural and difficult for any animal to endure. On factory farms, however, confinement is taken to extremes. Cows destined to become beef are allowed to wander outside for a portion of their brief lives. Even then, they are packed into feedlots where they are forced to stand in their own feces, packed closely together with other cows.

PRO: Mutilations Cause Chronic Pain

S: According to... *The Humane League, January 5, 2021*

<https://thehumaneleague.org/article/factory-farming-animal-cruelty>

Q: It states...

Birds are debeaked: Chickens on factory farms undergo mutilation at the very beginning of their lives. When they are no more than a few hours old, chicks are sent to a debeaking machine, which slices off portions of the chick's upper and lower beak. Debeaking is intended to prevent birds from pecking one another. Pecking causes injury and sometimes death in other birds. Yet these behaviors are only common within factory farms. They are thought to arise partly due to the chronic stress these conditions give rise to. Aside from the initial pain caused by debeaking, there is evidence suggesting that chickens continue to endure chronic pain long after the procedure has been completed.

PRO: Mutilation Causes Pain and Health Complications

S: According to... *The Humane League, January 5, 2021*

<https://thehumaneleague.org/article/factory-farming-animal-cruelty>

Q: It states...

Cows and pigs are tail-docked: Tail-docking refers to the removal of part or most of an animal's tail. The procedure is done on factory farms largely without any anesthetic. Tail-docking is meant to dissuade pigs from biting one another's tails. This aims to resolve behaviors only seen within the intense confinement on factory farms. Tail-docking in cows is performed to reduce disease transmission and make milking more convenient for dairy workers. These claims carry little weight when compared to the pain and other health complications suffered by cows.

PRO: Violence and Inhumane Treatment

S: According to... *The Humane League, January 5, 2021*

<https://thehumaneleague.org/article/factory-farming-animal-cruelty>

Q: It states...

Violence and inhumane treatment: What is considered inhumane and violent can vary widely. Often, factory farm corporations will argue that animals are well cared for in factory farms, whereas animal advocates tend to believe that factory farming is rife with the inhumane treatment of animals. The act of confining an animal for their entire lives and preventing them from ever seeing sunlight or the night sky can be viewed as an act of violence. Killing animals who are still children—as is the case in chickens, pigs, lambs, veal, and beef cattle—can be seen as violent and inhumane. Forcibly impregnating animals time and again, while denying mothers any ability to engage with their offspring, can also be an act of violence. Even though the concept of humane treatment tends to be subjective, it seems clear that factory farms are predicated on violence and treating animals inhumanely.

PRO: No Legal Protections for Farm Animals

S: According to... *The Animal Welfare Institute, Last Accessed: April 2022*

<https://awionline.org/sites/default/files/uploads/documents/FA-AWI-LegalProtections-AnimalsonFarms-110714.pdf>

Q: It states...

FEDERAL LAWS: No single federal law expressly governs the treatment of animals used for food while on farms in the United States. In fact, these animals do not have legal protections until they are transported off the farm.¹ Even then, poultry, which account for 98 percent of animals raised for food, do not fall under the protection of the few federal laws that apply to livestock.² For example, both the Humane Methods of Slaughter Act and the Twenty-Eight Hour Law, the latter of which regulates when animals must be given food and time to rest during transport, exclude poultry.³ Moreover, the federal Animal Welfare Act⁴ —a law providing minimal standards of care for certain animals—exempts farm animals, except those used in research.



PRO Evidence (Effectiveness)

PRO: USDA & Certifiers Cooperate on Enforcement

S: According to... The U.S. Department of Agriculture, Last Accessed: April 2022

<https://www.ams.usda.gov/about-ams/programs-offices/national-organic-program>

Q: It states...

NOP is a federal regulatory program that develops and enforces consistent national standards for organically produced agricultural products sold in the United States. NOP also accredits third-party organizations to certify that farms and businesses meet the national organic standards. These certifiers and USDA work together to enforce the standards, ensuring a level playing field for producers and protecting consumer confidence in the integrity of the USDA Organic Seal. This means... in order to protect consumer confidence, the USDA works with certifiers who monitor and investigate farms to ensure that the rules are being followed.

PRO: Failure to Correct Results in Suspension/Removal

S: According to... The NOP Handbook, US Dept. of Agriculture, Last Accessed: April 2022

<https://www.ams.usda.gov/sites/default/files/media/4002.pdf>

Q: It states...

Violations that warrant a NONC are more significant than minor issues. They are serious or complex enough to require an approved corrective action plan and the certifier is to verify the implementation of the approved plan. Failure to correct (or successfully rebut) these violations in a prescribed time period indicates that an operation is unable or unwilling to comply with the USDA organic regulations. Failure to correct (or successfully rebut) violations cited in a NONC may result in a Notice of Proposed Suspension or, if the NONC was issued as part of an application review, a denial of certification. Also, unlike a minor issue, if a NONC is issued as part of the application process for certification, the operation must resolve the noncompliance before certification is granted.

This means... companies that make a significant mistake are given a chance to correct the situation, but if they don't the penalty will be severe - most companies will not risk ignoring the rules.

PRO: NOP Enforcement Involves Revocation and Fines

S: According to... US Dept. of Agriculture, February 21, 2017

<https://www.usda.gov/media/blog/2016/04/19/protecting-organic-integrity-through-enforcement>

Q: It states...

Once the NOP confirms a violation of the organic regulations, we can take a number of steps. For example, the NOP can issue cease-and-desist letters to companies and farms that are misrepresenting non-organic agricultural products as organic, which usually results in a non-certified operation either becoming certified or no longer representing their product as organic. We can also issue Notices of Warning, which typically concern minor violations that have been corrected and that advise businesses of penalties that may result from future violations. In more serious cases, the NOP can go further, including pursuing the suspension or revocation of organic certification or accreditation, as well as assessing civil penalties of up to \$11,000 per violation for noncompliant sales of agricultural products.

PRO: NOP Enforcement is Essential to Fairness

S: According to... US Dept. of Agriculture, February 21, 2017

<https://www.usda.gov/media/blog/2016/04/19/protecting-organic-integrity-through-enforcement>

Q: It states...

We take our enforcement role seriously, because we know it is essential to creating a level playing field for all organic stakeholders and maintaining consumer confidence in organic products. The NOP works hard to efficiently process and close all complaints. In the last three fiscal years, the NOP has processed and closed 260, 285, and 390 complaints, respectively. In addition, the NOP has increasingly prevailed in enforcement actions that go through USDA administrative court proceedings. In FY 2015, enforcement activities resulted in 13 settlement agreements and civil penalties in excess of \$1.8 million. For the first quarter of FY16, enforcement activities have already resulted in five settlement agreements and civil penalties of nearly \$930,000. You can read more about the NOP Compliance & Enforcement activities on the NOP Organic Enforcement web page.



"Bringing Debate to the Bluegrass!"

BDC Evidence Packet (v. 3.5)
Topic: Increasing Organic Agriculture
<https://bluegrassdebate.org/> [Pg.19]

PRO Evidence (Effectiveness): Continued...

PRO: NOP Enforcement Getting Stronger

S: According to... US Dept. of Agriculture, February 21, 2017

<https://www.usda.gov/media/blog/2016/04/19/protecting-organic-integrity-through-enforcement>

Q: It states...

Compliance and enforcement activities are key to maintaining organic integrity, and the NOP continues to strengthen enforcement efforts to ensure a fair market for all organic products. To support our efforts, the Organic INTEGRITY Database now allows certifying agents to regularly update the list of organic operations they certify. And by publicizing fraudulent organic certificates, the NOP increases awareness within the organic trade community when we uncover violators. Through all of these efforts, we remain committed to protecting the integrity of the organic seal for consumers and businesses.



BDC Evidence Packet (March/May 2022): Increasing Organic Agriculture

CON Evidence (Effectiveness)

CON: Lack of Proper Regulation (ex. Influence of large corporations weakens organic 'standards')

S: According to... Columbia Climate School, Columbia University, October 22, 2019

<https://news.climate.columbia.edu/2019/10/22/organic-food-better-environment/>

Q: It states...

Making matters more complicated, some experts worry that the term "organic food" is not always properly regulated. As more large corporations get involved in organic markets, researchers claim that this shift to the mainstream has "led to the weakening of ecologically beneficial standards". It may also limit organic farming's ability to reduce greenhouse gas emissions.

CON: Manipulation of Organic Rules (ex. avoiding rules through technicalities)

S: According to... Prof. Robert Paarlberg, Harvard University, Harvard Gazette, February 2, 2021

<https://news.harvard.edu/gazette/story/2021/02/author-robert-paarlberg-argues-against-buying-organic/>

Q: He states...

Assuming the rules do not change, a continued expansion of the organic sector will most likely come from investments by big corporate players who stay just barely within the rules by devising technical workarounds. They control against pests by growing indoors hydroponically; they control weeds with gas-powered flamethrowers instead of chemicals, or with "mulch" carpets made of black plastic. Some organic farms in Pennsylvania, Georgia, and Florida are spreading plastic over thousands of acres, even though each acre farmed this way generates more than 100 pounds of nonbiodegradable plastic waste that must be loaded into dumpsters, then taken to a landfill. Conventional farmers also use plastic mulch, but not as much, and the plastic they use is biodegradable, so it does not go to a landfill. The National Organic Program does not allow organic farmers to use most biodegradable plastic mulches because they contain petroleum-based materials. Purity comes with a price, once again.

This means... the majority of organic farms will not follow the organic rules if they can find ways around them, they will in order to maximize their profits.

CON: Organic Policies are Insufficient and Misguided

S: According to... Prof. Robert Paarlberg, Harvard University, Harvard Gazette, February 2, 2021

<https://news.harvard.edu/gazette/story/2021/02/author-robert-paarlberg-argues-against-buying-organic/>

Q: He states...

It doesn't usually pay to challenge popular beliefs, even with scientific evidence, but some have felt compelled to do so in the case of organic agriculture. Louise O. Fresco, trained as an agronomist, is the president of Wageningen University in the Netherlands, the world's leading agricultural university. In her 2016 book "Hamburgers in Paradise," she drew a harsh conclusion: "Organic farming as a whole is a mish-mash of valuable goals and ideals that have either been insufficiently tested or are completely misguided."

This means... increasing organic agriculture will not be effective because the guidelines are so unreliable -- it is good in theory, but not in practice (good as an idea, but not good in reality).

CON: Lacking Infrastructure Prevents Switch to Organic (ex. Regulations are difficult to meet)

S: According to... Environmental Conscience, Last Accessed: April 2022

<https://environmental-conscience.com/organic-farming-pros-cons/>

Regulatory standards may be hard to meet: In many countries around the world, the regulatory standards regarding organic farming are quite high. This may be a big problem since many farmers might not be able to comply with those high standards. Thus, even though many farmers might be willing to switch to organic gardening, they might not be able to do so since their infrastructure might not allow it.

CON: Organic Farming No Longer Genuine (ex. companies exploit regulations; not follow rules very closely)

S: According to... Columbia Climate School, Columbia University, October 22, 2019

<https://news.climate.columbia.edu/2019/10/22/organic-food-better-environment/>

Q: It states...

In the U.S., even sustainability experts continue to be unsure of whether food items like fruits and vegetables with the "certified organic" labels are in fact, genuinely organic or not. McDermid said that even she sometimes feels uncertain about what to buy in the supermarket.



CON Evidence (Effectiveness): Continued...

CON: Organic Farming is Overly Complicated (ex. Unable to use simpler farming practices)

S: According to... *Environmental Conscience*, Last Accessed: April 2022

<https://environmental-conscience.com/organic-farming-pros-cons/>

Q: It states...

Organic farming requires plenty of knowledge: Organic farming can also be considered to be more complicated compared to conventional farming. In conventional farming, most pests are controlled through the use of excessive amounts of fertilizers and it is therefore rather easy to keep the plants healthy. However, in organic farming, it is much harder to fight pests since no chemical pesticides are used. It needs a high level of knowledge and experience for organic farmers to ensure sufficient crop yields and to control pests and other issues. Thus, for organic farming, farmers have to acquire plenty of knowledge in order to be successful.

CON: Organic Farming Lacks Valuable Solutions

S: According to... *Conserve Energy Future*, Last Accessed: April 2022

<https://www.conserve-energy-future.com/pros-and-cons-organic-farming.php>

Q: It states...

Skills: More skills are needed to farm organically compared to mechanical and chemical agriculture. This is greatly associated with the fact that the definitive aspect of organic farming maintains the use of natural inputs and close observation of the production process. Organic farmers lack the convenience of using mechanized or chemical techniques to fix every problem that is encountered. Instead, they have to employ careful observation and superior understanding of the production process so as to realize the most suitable natural farming system that will correct the production problems rather than attaining short-term solutions. On this basis, the bigger concern is the duration it takes to develop the appropriate skills to wholly understand how to build a healthy farm ecosystem while at the same time seeking for valuable and high productivity.

CON: Regulations Prevent Conversion to Organic

S: According to... *Economicshelp*, December 3, 2019

<https://www.economicshelp.org/blog/153913/economics/organic-farming-pros-and-cons/>

Q: It states...

Time involved. Converting to organic farming takes three years and requires expensive scrutiny and regulation to prove the farm is meeting organic standards. The drawback is that during this period, the farmer cannot sell goods as organic, so they have the higher costs, but not the higher prices.

CON: Fundamentally Misguided Policies (ex. Over Use of Nitrogen)

S: According to... *Prof. Robert Paarlberg, Harvard University, Harvard Gazette, February 2, 2021*

<https://news.harvard.edu/gazette/story/2021/02/author-robert-paarlberg-argues-against-buying-organic/>

Q: He states...

Scientists like Fresco view the organic vision as fundamentally misguided because it depends on an ungrounded distinction between materials that come from nature versus those fabricated by human industry. Organic farmers are permitted to treat their crops with the former, but not the latter. The organic rule says we can use nitrogen from animal manure to replace soil nutrients, but not nitrogen synthesized from the atmosphere in a factory. This is not a science-based distinction. No matter what method we use to get a supply of nitrogen for use as fertilizer, it will be the same element within the periodic table, with all the same properties.

This means... people are assuming that because a farm product is manmade, that it is bad for us, which leads to less innovation in farming because organic policies are ignoring the science behind food production. Organic is more religion and not enough science!

CON: Denied Genetically Modified Solutions

S: According to... *Conserve Energy Future*, Last Accessed: April 2022

<https://www.conserve-energy-future.com/pros-and-cons-organic-farming.php>

Lacks the flexibility of utilizing GMO advantages: The classic nature of organic farming is the complete avoidance of any sort of genetic modification. Well, despite the fact that this helps to bolster healthy lifestyle, organic growers miss out on significant genetic engineered technologies which can assist crops to better resist pests and diseases or tolerate weeds. Conventional farmers have the flexibility of taking advantage of genetic modification, which is generally lacking in organic farming.



CON Evidence (Effectiveness): Continued...

CON: Most Organic Food from Industrial Farms

S: According to... Prof. Robert Paarlberg, Harvard University, Harvard Gazette, February 2, 2021

<https://news.harvard.edu/gazette/story/2021/02/author-robert-paarlberg-argues-against-buying-organic/>

Q: He states...

Consumers tend to favor organic food because they believe the advocates who claim it is safer and more nutritious to eat, but there is little or no scientific evidence to support these claims. Others buy organic food because they assume it comes from farms that are smaller, more traditional, and more diverse, but this is not a safe assumption either. Most organic food on the market today comes from highly specialized, industrial-scale farms, not so different from those that produce conventional food.

This means... we cannot assume that organic food is actually what we expect it to be -- it is likely just a more expensive version of conventionally grown crops.

CON: Majority of Organic Farming is Industrial (ex. large companies not trying to help - only to make a profit)

S: According to... Columbia Climate School, Columbia University, October 22, 2019

<https://news.climate.columbia.edu/2019/10/22/organic-food-better-environment/>

Q: It states...

Experts maintain that in the heated debate over organic versus conventional farming, there needs to be more information available for consumers when it comes to labeling and even understanding the certification processes in industrialized countries like the U.S. "A huge fraction, if not the majority of organic goods sold at supermarkets in the U.S. is probably industrial," added McDermid. For now, in the developed world, the industrialization or commercialization of organic farming has resulted in a lot of difficulty for both consumers and researchers, who are trying to understand what the goals of this booming industry are.

CON: 90% of Organic is Industrialized

S: According to... Prof. Robert Paarlberg, Harvard University, Harvard Gazette, February 2, 2021

<https://news.harvard.edu/gazette/story/2021/02/author-robert-paarlberg-argues-against-buying-organic/>

Q: He states...

In 2007, a Time magazine cover story noted this trend, explaining that Big Organic had taken over by adopting "the same industrial-size farming and long-distance-shipping methods as conventional agribusiness." Organic today usually does not mean local, since 38 percent of all organic sales originate from California. America's leading source of organic tea and ginger is actually China. Retail chains do sometimes source small batches of organic food from independent local growers, but often just as window dressing. Organic foods today have also become processed foods. By 2003, more than four-fifths of all organic sales in the United States were being made under brands owned by conglomerates like ConAgra, H.J. Heinz, and Kellogg. The biggest retailers of organic foods now are Walmart, Costco, and Kroger. By 2014, only 8 percent of U.S. organic sales were made directly from small farmers to consumers at farmers markets or through CSAs.

This means... more than 90% of organic foods come from large industrial-size operations that are the same major growers of conventional foods. Organic no longer means what it once did.



CON Evidence (Hurting Farmers)

CON: Too Costly for Most Farmers (Costly equipment, labor, and regulations)

S: According to... *Environmental Conscience*, Last Accessed: April 2022

<https://environmental-conscience.com/organic-farming-pros-cons/>

Q: It states...

Significant costs at the beginning: Even though organic farming has many important advantages, there are also some problems related to it. One disadvantage of organic farming is that it can be quite costly to get all the necessary equipment and to fulfill the regulatory standards in order to declare and sell your products as organic. Thus, many small farmers may not be able to afford these kinds of investments and certifications and may stay trapped in conventional farming due to that.

CON: Small Farmers Face Bankruptcy (ex. Costs and Competition from the 'Big' organic companies)

S: According to... *Environmental Conscience*, Last Accessed: April 2022

<https://environmental-conscience.com/organic-farming-pros-cons/>

Q: It states...

Small farmers may go out of business: Due to these high regulatory standards and the costs of organic certifications, some small farmers may even go out of business since they might not be able to meet those high standards. Additionally, if there are big organic food companies in those regions, small farmers may also not be able to stay competitive and may lose their livelihood due to that.

CON: Certification Expensive and Unaffordable to Small Farmers (ex. Regulations prevent success)

S: According to... *Environmental Conscience*, Last Accessed: April 2022

<https://environmental-conscience.com/organic-farming-pros-cons/>

High certification costs: Organic farming businesses often also need a certain kind of certification in order to be officially considered to produce organic food. However, this certification can be quite expensive and might be unaffordable, especially for small farmers in poor countries of our planet. Moreover, there are also plenty of controls regarding the compliance of farmers with organic farming standards. All those certifications and controls might make it hard for small farmers to successfully operate an organic farming business.

CON: Higher and Costlier Labor Costs (ex. Too much manual labor is required to operate organic farms)

S: According to... *Environmental Conscience*, Last Accessed: April 2022

<https://environmental-conscience.com/organic-farming-pros-cons/>

Q: It states...

Organic farming can be time-consuming: Since for organic farming, no chemical pesticides are used, farmers have to monitor and manually intervene much more in order to keep their plants healthy. Hence, organic farming can be considered to be much more time-consuming compared to conventional farming since the processes require a higher level of manual work.

CON: Intensive Labor Costs

S: According to... *Conserve Energy Future*, Last Accessed: April 2022

<https://www.conserve-energy-future.com/pros-and-cons-organic-farming.php>

Q: It states...

Time consuming: It requires a lot of commitment, patience and uphill struggle to effectively grow crops organically. Organic farming needs a high amount of interaction between a farmer and his/her crops or livestock. Whether it is ensuring the crops are pest and disease free in an organic way or the use of natural methods to control weeds or raising animals in an organic way, the process is highly time consuming. The farmer has to spend most of the time, day after day, observing and catering for the needs of his/her crops and animals with utmost care in the best natural way. This makes organic farming to be more labor intensive compared to the conventional mechanical or chemical agriculture. Higher yields can be produced industrially as opposed to the sole practice of organic farming owing to its time consuming nature.

CON: Higher Prices Don't Guarantee Profit (Risk of bankruptcy!)

S: According to... *Economics Help*, December 3, 2019

<https://www.economicshelp.org/blog/153913/economics/organic-farming-pros-and-cons/>

Supermarkets profit more than farmers. The price mark-up on organic farming is mostly gained by the supermarket. Profit margins for supermarkets on organic fruit and veg is 96% higher than conventional products. Whilst organic food is more expensive, the price difference does not lead to higher revenue for farmers. A French study found: "Only half of the price difference between organic and non-organic food finds its way back to farmers." (Euractiv, Sep 2017.)



CON Evidence (Hurting Farmers): Continued...

CON: Significantly Higher Labor Costs

S: According to... Prof. Robert Paarlberg, Harvard University, Harvard Gazette, February 2, 2021

<https://news.harvard.edu/gazette/story/2021/02/author-robert-paarlberg-argues-against-buying-organic/>

Q: He states...

Farmers tend to hold back because producing food organically requires more human labor to handle the composted animal manure used for fertilizer, as well as more labor to control weeds without chemicals (sometimes putting down nonbiodegradable plastic mulch instead). It also requires more land for every bushel of production, further driving up costs. Trying to grow all of our food organically today would require farming a much wider area, damaging wildlife habitat. Rachel Carson, the founder of our modern environmental movement, never endorsed organic farming. Her 1962 book "Silent Spring" condemned synthetic insecticides like DDT, but Carson saw no reason to ban manufactured fertilizers, a requirement under the organic standard.

This means... increasing organic agriculture will make the cost of farming higher and will reduce profits for farmers and result in higher costs for consumers.

CON: Most Farms Reject Costly Production Methods

S: According to... Prof. Robert Paarlberg, Harvard University, Harvard Gazette, February 2, 2021

<https://news.harvard.edu/gazette/story/2021/02/author-robert-paarlberg-argues-against-buying-organic/>

Q: He states...

Nearly half of all Americans claim to prefer organic food, and the label has spread far beyond food. You can now buy organic lipstick, organic underwear, and even organic water. The 2019 Super Bowl featured ads for organic beer, and health-conscious smokers are able to purchase organic cigarettes. Most farmers, however, have little interest in switching to the more costly and less convenient production methods required for organic certification, so this constrains the supply, which makes organic food needlessly expensive. America's farmers so far have certified less than 1 percent of their cropland for organic production, and fewer than 2 percent of commodities grown in 2017 were organic. Processed and packaged foods can now be organic as well, but fewer than 6 percent of total retail food purchases are organic products. Two decades after federal organic certification began in America, the brand remains a single-digit phenomenon.

This means... increasing organic agriculture is very costly and most farms will not want to pursue it, so this makes the cost of the food much more expensive.

CON: Greater Costs from Labor-Intensive Methods

S: According to... Economics Help, December 3, 2019

<https://www.economicshelp.org/blog/153913/economics/organic-farming-pros-and-cons/>

Q: It states...

More labor intensive. Aspects of organic farming are more labor-intensive, weeding by hand. Less dense methods of animal farming. As a result farmers have greater costs.



CON Evidence (Food Security & World Hunger = Supply & Price)

CON: 98% Increased Demand for Food (ex. Populations grow and climate change makes growing more difficult)

S: According to... Columbia Climate School, Columbia University, October 22, 2019

<https://news.climate.columbia.edu/2019/10/22/organic-food-better-environment/>

Q: It states...

It is estimated that by 2050, the demand for food is going to increase by 59 to 98 percent due to the ever-increasing global population. A major challenge for the agriculture business is not only trying to figure out how to feed a growing population, but also doing so while adapting to climate change and coming up with adequate mitigation measures.

This means... we must have more food production to feed the world, but organic agriculture cannot meet the growing demand - leaving billions of people vulnerable to food insecurity and starvation.

CON: Agriculture Yields Reduced by 40% (ex. organic farming is not sustainable for food production)

S: According to... Columbia Climate School, Columbia University, October 22, 2019

<https://news.climate.columbia.edu/2019/10/22/organic-food-better-environment/>

Q: It states...

Some scientists continue to be concerned that with limited land areas that will be available for farming, it might not be sustainable for industrialized countries to go 100 percent organic. A recent study published in the journal Nature Communications concludes that the widespread adoption of organic farming practices in England and Wales would lead to increases in greenhouse gas emissions. This is mainly because agricultural yields would be 40 percent lower.

CON: Increases Risk of Conflict Over Food

(ex. NASA scientist says making expensive food for the wealthy increases risk of conflict)

S: According to... Columbia Climate School, Columbia University, October 22, 2019

<https://news.climate.columbia.edu/2019/10/22/organic-food-better-environment/>

Q: It states...

"For organic farming to be successful, agribusinesses would have to find the balance between the costs involved and also, its carbon footprint, while taking into consideration the overall need to meet the high demands for food," said Alexander Ruane, a research physical scientist at NASA Goddard Institute for Space Studies and an adjunct associate research scientist at the Columbia University Center for Climate Systems Research. "That's tough because the goal of organic farming in developed countries currently is about meeting the needs of those who can afford the luxury to buy the highest quality food. If the needs of this luxury interfere with the need to feed the entire population, then you have the potential for conflicts."

CON: Productivity Loss Threatens Global Survival

S: According to... Conserve Energy Future, Last Accessed: April 2022

<https://www.conserve-energy-future.com/pros-and-cons-organic-farming.php>

Q: It states...

Diminished productivity in the long-term: The contemporary world agricultural production goal is superior productivity. While organic farming promises improved and healthier produce, it is only beneficial in the short term as the massive inputs such as machinery and chemicals are out of the picture. By contrast, over the long-term, the productivity advantages diminish. As the soil health and fertility declines over time in organic farming, so does the yields and this happens when the soil reaches the point where it can no longer convert the existing humus into soil fertility. As a result, productivity starts to diminish and farmers resort to boost it by adding chemical inputs. It takes time for the soil to regenerate and restore after a growing season in organic farming. Hence, when the soil is utilized over the longer time frame then it cannot produce enough produce that can support the survival needs of the world's population.

CON: Smaller Yields Causes Food Shortages (ex. Organics refuse to use effective fertilizers/chemicals)

S: According to... Environmental Conscience, Last Accessed: April 2022

<https://environmental-conscience.com/organic-farming-pros-cons/>

Q: It states...

May not be suitable for growing on a large scale: Since no chemical fertilizers and pesticides are used in organic farming, the yields are often smaller compared to conventional farming practices. Thus, especially in regions where the local population heavily relies on the vegetables and fruits from agriculture as their main food source, organic farming might be rather a problem than an advantage since it could lead to a shortage of groceries in those regions. Therefore, depending on the geographic conditions and the overall circumstances, organic farming may not be suitable for some poor regions on our planet.



CON Evidence (Food Security & Hunger): Continued...

CON: Significantly Lower Yields (ex. Refusing to use certain chemicals causes greater losses from pests)

S: According to... *Environmental Conscience*, Last Accessed: April 2022

<https://environmental-conscience.com/organic-farming-pros-cons/>

Q: It states...

Pest issues: Organic farming may also contribute to the spread of pests and a large fraction of the yield may be lost due to pests. Many plants may die off or may only produce a low yield due to pest infestation. Thus, also pests may contribute to lower crop yields, which could be a huge problem for farmers who rely on stable crop yields as their single source of income.

CON: Produce Becomes Unaffordable to Many (ex. Organic is much more expensive than conventional)

S: According to... *Environmental Conscience*, Last Accessed: April 2022

<https://environmental-conscience.com/organic-farming-pros-cons/>

Q: It states...

Products may be too expensive for poor people: Organic fruits and vegetables are often much more expensive compared to conventional ones. Thus, especially for people with a low wage, these food items may not be affordable. Therefore, especially in regions where people are quite poor, organic farming may not be the way to go since the majority of the local population may not be able to afford organic food and may suffer from hunger due to that.

CON: Uncertainty Regarding Financial Circumstances (ex. Yields not guaranteed = facing bankruptcy!)

S: According to... *Environmental Conscience*, Last Accessed: April 2022

<https://environmental-conscience.com/organic-farming-pros-cons/>

High variance in yield and quality: Organic farming also implies a high level of uncertainty regarding the yield and the quality of the crops. For instance, in years where pests are a big problem, yields can be significantly lower and farmers may suffer from severe financial losses. This problem is less serious for conventional farmers since they can simply use their chemical pesticides and stabilize their yields to a certain extent. Hence, organic farmers often have to deal with higher levels of uncertainty regarding their yields and their overall financial situation.

CON: Organic Products are Extremely Expensive

S: According to... *Conserve Energy Future*, Last Accessed: April 2022

<https://www.conserve-energy-future.com/pros-and-cons-organic-farming.php>

Q: It states...

Organic products are extremely expensive: Organic foods are the most expensive agricultural produces in the market. Perhaps this is one of the main reasons that organic farming is not fully supported as not so many people realize its great benefits. In the supermarkets, for instance, organic vegetables and fruits cost as much as 20 to 40 percent more than their non-organic equivalent. The consumers pay the price and this is said to be one of the major disadvantages of organically produced food products. The exorbitant prices of organic products are linked with the notion that organic farmers do not yield as much out of their farms as conventional farmers do.

CON: Organic Methods Fail to Prevent Losses from Pests (ex. Threatens Food Security)

S: According to... *Economics Help*, December 3, 2019

<https://www.economicshelp.org/blog/153913/economics/organic-farming-pros-and-cons/>

Q: It states...

Potential loss of crops. Could lose crops to pest/disease that cannot be dealt with by organic methods.

CON: Organic Prices Are Too High

S: According to... *Prof. Robert Paarlberg, Harvard University, Harvard Gazette, February 2, 2021*

<https://news.harvard.edu/gazette/story/2021/02/author-robert-paarlberg-argues-against-buying-organic/>

Q: He states...

Consumers pay considerably more for organic. In 2018, the Food Marketing Institute reported that the average retail price (by volume) for organic produce was 54 percent higher than for conventional produce. One USDA study showed that organic salad mix cost 60 percent more than conventional; organic milk 72 percent more; and organic eggs 82 percent more. Organic corn and soybeans sell for twice as much as conventional. These are high premiums, but not high enough to move most farmers toward organic, because the farming costs required by organic methods can be higher still.

This means... increasing organic agriculture will significantly increase the cost of food, making it less and less affordable to families who cannot afford it.



"Bringing Debate to the Bluegrass!"

BDC Evidence Packet (v. 3.5)
Topic: Increasing Organic Agriculture
<https://bluegrassdebate.org/> [Pg.27]

CON Evidence (Food Security & Hunger): Continued...

CON: 20% Reduction in Crop Yields

S: According to... Economics Help, December 3, 2019

<https://www.economicshelp.org/blog/153913/economics/organic-farming-pros-and-cons/>

Q: It states...

Decline in crop yields. Crop yields can be up to 20% less than none organic farms. There is a concern that if all farmland was converted to organic it would reduce food supply and increase prices.



CON Evidence (Environment)

CON: Higher Organic Carbon Emissions (ex. Study = 50% higher for peas)

S: According to... Columbia Climate School, Columbia University, October 22, 2019

<https://news.climate.columbia.edu/2019/10/22/organic-food-better-environment/>

Not surprisingly, the debate over organic versus conventional farming is heavily polarized in academic circles. Of late, the conversation about organic farming has shifted from its lack of chemicals to its impact on greenhouse gas emissions. In December 2018, researchers from Chalmers University of Technology published a study in the journal *Nature* that found that organic peas farmed in Sweden have a bigger climate impact (50 percent higher emissions) as compared to peas that were grown conventionally in the country. "Organic farming has many advantages but it doesn't solve all the environmental problems associated with producing food. There is a huge downside because of the extra land that is being used to grow organic crops," said Stefan Wirsenius, an associate professor at Chalmers. "If we use more land for food, we have less land for carbon sequestration. The total greenhouse gas impact from organic farming is higher than conventional farming."

CON: Organic Malfunction Causes Habitat Loss

S: According to... Prof. Robert Paarlberg, Harvard University, Harvard Gazette, February 2, 2021

<https://news.harvard.edu/gazette/story/2021/02/author-robert-paarlberg-argues-against-buying-organic/>

Q: He states... The rules for organic farming do deliver some clear benefit in the livestock sector. Producers of organic meat, milk, and eggs are required to provide their animals with more space to move around, an important plus for animal welfare. Also, animal products cannot be labeled organic if the animals were fed or treated with antibiotics, which is good for slowing the emergence of resistant bacterial strains dangerous to human health. Yet even for livestock the organic rule malfunctions, since the animals can only be given feeds grown organically, and organic corn and soy have lower yields per acre, so more land must be planted and plowed.

This means... increasing organic agriculture for animals will cause even more animals to suffer due to habitat loss and will waste valuable resources that could have made food for people.

CON: Causing Environmental Problems (ex. Habitat Loss & Plastics)

S: According to... Prof. Robert Paarlberg, Harvard University, Harvard Gazette, February 2, 2021

<https://news.harvard.edu/gazette/story/2021/02/author-robert-paarlberg-argues-against-buying-organic/>

Q: He states...

Farmers tend to hold back because producing food organically requires more human labor to handle the composted animal manure used for fertilizer, as well as more labor to control weeds without chemicals (sometimes putting down nonbiodegradable plastic mulch instead). It also requires more land for every bushel of production, further driving up costs. Trying to grow all of our food organically today would require farming a much wider area, damaging wildlife habitat. Rachel Carson, the founder of our modern environmental movement, never endorsed organic farming. Her 1962 book "Silent Spring" condemned synthetic insecticides like DDT, but Carson saw no reason to ban manufactured fertilizers, a requirement under the organic standard.

This means... increasing organic agriculture would require greater habitat loss and increase non-recyclable waste.

CON: Using Harmful Non-Synthetic Chemicals (ex. Using Sulphur which threatens workers and biodiversity)

S: According to... Columbia Climate School, Columbia University, October 22, 2019

<https://news.climate.columbia.edu/2019/10/22/organic-food-better-environment/>

Q: It states...

"An apt example would be the case of a farm involved in the production of organic berries in Central Valley, California. While they are not using additional land area or chemical inputs like in conventional farming, they are using other really strong inputs like sulfur," explained McDermid. "This can be harmful to farmworkers as they need to wear proper suits and protective gear even though it is not chemically synthetic. Despite that, it is just as powerful in some cases." McDermid is also concerned that some agribusinesses can farm uniformly without any biodiversity and still call themselves organic. Whereas in developing or emerging economies — for example in India — farmers tend to follow a far more traditional definition of organic farming.



CON Evidence (Environment): Continued...

CON: Increased Air Pollution (ex. Terrible Odor from animal manure and fertilizers)

S: According to... *Environmental Conscience*, Last Accessed: April 2022

<https://environmental-conscience.com/organic-farming-pros-cons/>

Q: It states...

Unpleasant smell: Through the use of organic fertilizer, there might also be a rather unpleasant smell related to organic farming. Quite often, the manure of animals is used for farming purposes. One can imagine that the nearby area will be covered by significant smell and many people who are not used to this may significantly suffer from this kind of air pollution.

CON: "Smart" Spraying is Efficient (ex. Conventional Pesticides Not Overly Used)

S: According to... *Prof. Robert Paarlberg, Harvard University, Harvard Gazette, February 2, 2021*

<https://news.harvard.edu/gazette/story/2021/02/author-robert-paarlberg-argues-against-buying-organic/>

Q: He states...

Pesticide risks have also been diminished thanks to integrated pest management (IPM), a technique that advises spraying only when monitored pest pressures threaten a commercial loss, and only after nonchemical control options (for example, using good bugs to kill bad bugs) are no longer working. In this system, a judicious use of chemicals is permitted, something the organic rule does not allow. New varieties of crops with better genetic defenses of their own against insects and crop disease have also reduced insecticide use in America, and "smart" sprayers now apply chemicals at optimal rates and with far greater precision. Thanks to all these things in combination, farmers in the United States have reduced pesticide use significantly since the 1970s. The total pounds of herbicide and insecticide ingredients applied to crops declined by 18 percent between 1980 and 2008, even as total crop production increased 46 percent. For insecticides specifically, total use peaked in 1972 and has now fallen more than 80 percent below that peak. All these gains were achieved without any significant switch to organic farming methods.

This means... it is incorrect to say that conventional farming is overly using pesticides because that is not the most efficient and profitable way. (Note: Organic farming sprays more because their pesticides are weaker).

CON: Hundreds of Pounds of Plastic Waste (ex. "Mulch" Carpets)

S: According to... *Prof. Robert Paarlberg, Harvard University, Harvard Gazette, February 2, 2021*

<https://news.harvard.edu/gazette/story/2021/02/author-robert-paarlberg-argues-against-buying-organic/>

Q: He states...

Assuming the rules do not change, a continued expansion of the organic sector will most likely come from investments by big corporate players who stay just barely within the rules by devising technical workarounds. They control against pests by growing indoors hydroponically; they control weeds with gas-powered flamethrowers instead of chemicals, or with "mulch" carpets made of black plastic. Some organic farms in Pennsylvania, Georgia, and Florida are spreading plastic over thousands of acres, even though each acre farmed this way generates more than 100 pounds of nonbiodegradable plastic waste that must be loaded into dumpsters, then taken to a landfill. Conventional farmers also use plastic mulch, but not as much, and the plastic they use is biodegradable, so it does not go to a landfill. The National Organic Program does not allow organic farmers to use most biodegradable plastic mulches because they contain petroleum-based materials. Purity comes with a price, once again.

This means... 100's of pounds of non-biodegradable waste is generated each year - filling landfills and causing soil pollution.

CON: Careless Use of Sulfates (ex. Copper Sulphate Pollutes Water Systems)

S: According to... *Prof. Robert Paarlberg, Harvard University, Harvard Gazette, February 2, 2021*

<https://news.harvard.edu/gazette/story/2021/02/author-robert-paarlberg-argues-against-buying-organic/>

Q: He states...

By focusing on natural versus synthetic, the organic rule loses sight of actual risks. Copper sulfate is permitted as a fungicide because it isn't synthetic, but careless use of this chemical can leave dangerous residues on food and pollute our streams. Animal manure is natural, and an excellent fertilizer when composted, but dangerous bacteria will be introduced into fields and also into groundwater systems if a farmer fails to get the heat in the compost pile up to at least 140 degrees. A close friend with a field of organic blueberries on her hilltop farm in Maine developed serious stomach problems when she located her compost pile too close to the well.

This means... increasing organic agriculture has serious risks to both public health and water systems. Industrial organic companies will not hesitate to use whatever products are strongest and cheapest to make the more profit.



"Bringing Debate to the Bluegrass!"

BDC Evidence Packet (v. 3.5)
Topic: Increasing Organic Agriculture
<https://bluegrassdebate.org/> [Pg.30]

CON Evidence (Environment): Continued...

CON: Using Harmful Non-Synthetic Chemicals (ex. Using Sulphur which threatens habitats and biodiversity)

S: According to... Columbia Climate School, Columbia University, October 22, 2019

<https://news.climate.columbia.edu/2019/10/22/organic-food-better-environment/>

Q: It states...

"An apt example would be the case of a farm involved in the production of organic berries in Central Valley, California. While they are not using additional land area or chemical inputs like in conventional farming, they are using other really strong inputs like sulfur," explained McDermid. "This can be harmful to farmworkers as they need to wear proper suits and protective gear even though it is not chemically synthetic. Despite that, it is just as powerful in some cases." McDermid is also concerned that some agribusinesses can farm uniformly without any biodiversity and still call themselves organic. Whereas in developing or emerging economies — for example in India — farmers tend to follow a far more traditional definition of organic farming.



CON Evidence (Health)

CON: No Scientific Evidence for Improved Health

S: According to... Prof. Robert Paarlberg, Harvard University, Harvard Gazette, February 2, 2021

<https://news.harvard.edu/gazette/story/2021/02/author-robert-paarlberg-argues-against-buying-organic/>

Q: He states...

Consumers tend to favor organic food because they believe the advocates who claim it is safer and more nutritious to eat, but there is little or no scientific evidence to support these claims. Others buy organic food because they assume it comes from farms that are smaller, more traditional, and more diverse, but this is not a safe assumption either. Most organic food on the market today comes from highly specialized, industrial-scale farms, not so different from those that produce conventional food.

This means... people are wasting their money for expensive food that is not worth the cost. Also... people claiming health benefits are using assumptions and not proof to back their claims.

CON: Cancer Risks Exaggerated by Media (ex. Ignoring Scientists)

S: According to... Prof. Robert Paarlberg, Harvard University, Harvard Gazette, February 2, 2021

<https://news.harvard.edu/gazette/story/2021/02/author-robert-paarlberg-argues-against-buying-organic/>

Q: He states...

"60 Minutes" had mostly ignored the views of toxicologists. Four years earlier an EPA report had shown that consuming the Alar residues found on food over a lifetime would bring an added risk of only 1 more cancer death per 10,000 people. The director of the National Cancer Institute's cancer etiology division went further, characterizing the cancer risks from eating Alar-treated apples as nonexistent. EPA never did ban the chemical, but when growers voluntarily stopped using it due to consumer fears, this was taken as evidence that the threat must be real. Concerns over pesticide residues on food persist to the present day despite that in the United States since the 1970s increased regulation plus reduced spraying have brought risks under control. Although dubious on its merits, the Alar scare created what Newsweek magazine called a "panic for organic." In 1990, Congress passed the Organic Foods Production Act to create a uniform understanding of the practices that would disqualify a farm from organic certification. The strongest push for this new law came from large-scale commercial organic growers, especially in California, as well as consumer groups, some environmental organizations, and animal welfare advocates.

This means... Many cancer claims are exaggerations that have been repeated causing a panic - yet the additional risks from certain synthetic toxins is only minimal.

CON: Using Harmful Non-Synthetic Chemicals (ex. Using Sulphur which threatens peoples/workers health)

S: According to... Columbia Climate School, Columbia University, October 22, 2019

<https://news.climate.columbia.edu/2019/10/22/organic-food-better-environment/>

Q: It states...

"An apt example would be the case of a farm involved in the production of organic berries in Central Valley, California. While they are not using additional land area or chemical inputs like in conventional farming, they are using other really strong inputs like sulfur," explained McDermid. "This can be harmful to farmworkers as they need to wear proper suits and protective gear even though it is not chemically synthetic. Despite that, it is just as powerful in some cases." McDermid is also concerned that some agribusinesses can farm uniformly without any biodiversity and still call themselves organic. Whereas in developing or emerging economies — for example in India — farmers tend to follow a far more traditional definition of organic farming.

CON: Organic Pesticides Threaten Public Health & the Environment

S: According to... Economics Help, December 3, 2019

<https://www.economicshelp.org/blog/153913/economics/organic-farming-pros-and-cons/>

Q: It states...

Organic pesticides. Organic still involves some 'organic' pesticides. In the US, organic farmers are allowed to spray 'organic' pesticides – including copper and sulfur. On organic farms, the quantity of pesticide is not monitored. According to the National Center for Food and Agricultural Policy, The two organic fungicides, copper and sulfur, were used at a rate of 4 and 34 pounds per acre in 1971. --American Scientific (2011)

These organic pesticides are not trouble-free and can damage both the environment and health.



CON Evidence (Health): Continued...

CON: Misguided to Prefer Natural Compounds

S: According to... Prof. Robert Paarlberg, Harvard University, Harvard Gazette, February 2, 2021

<https://news.harvard.edu/gazette/story/2021/02/author-robert-paarlberg-argues-against-buying-organic/>

Q: He states...

Visions that privilege what comes from nature over what is made by people have a mystical appeal, but they malfunction as practical guidance. Nature is often alluring and attractive, yet natural materials are anything but safe. Arsenic, nickel, and chromium are all dangerous carcinogens, and all come from nature. Many plants that are found in nature contain dangerous poisons, ranging from the deadly ricin found in castor beans (familiar to fans of "Breaking Bad") to the itch-inducing urushiol in common poison ivy.

This means... assuming that natural poisons are preferable to manmade chemicals is an unscientific approach and natural chemicals can be just as dangerous as any others.

CON: Careless Use of Sulfates (ex. Copper Sulphate Residue Threatens Health)

S: According to... Prof. Robert Paarlberg, Harvard University, Harvard Gazette, February 2, 2021

<https://news.harvard.edu/gazette/story/2021/02/author-robert-paarlberg-argues-against-buying-organic/>

Q: He states...

By focusing on natural versus synthetic, the organic rule loses sight of actual risks. Copper sulfate is permitted as a fungicide because it isn't synthetic, but careless use of this chemical can leave dangerous residues on food and pollute our streams. Animal manure is natural, and an excellent fertilizer when composted, but dangerous bacteria will be introduced into fields and also into groundwater systems if a farmer fails to get the heat in the compost pile up to at least 140 degrees. A close friend with a field of organic blueberries on her hilltop farm in Maine developed serious stomach problems when she located her compost pile too close to the well.

This means... increasing organic agriculture has serious risks to both public health and water systems. Industrial organic companies will not hesitate to use whatever products are strongest and cheapest to make the more profit.

CON: Steroids and Hormones are Safe (for People and for Animals)

According to... U.S. Department of Agriculture, July 17, 2019

<https://ask.usda.gov/s/article/Are-hormones-used-for-livestock-safe-for-consumers>

Q: It states...

The Food and Drug Administration (FDA) is responsible for ensuring that animal drugs and medicated feeds are safe and effective for animals, and that food from treated animals is safe for humans to eat. Certain steroid hormones have been approved for use at very low concentrations to increase the rate of weight gain and/or improve feed efficiency in beef cattle. No steroid hormones are approved for use in poultry. All of the steroid hormonal growth-promoting drugs are available for over-the-counter purchase in the United States, and are generally administered by the livestock producer at specific stages of production. Residue levels of these hormones in food have been demonstrated to be safe, as they are well below any level that would have a known effect in humans. Food Safety and Inspection Service enforces FDA rules through a sampling and testing program that is part of its overall meat and poultry inspection program. For more information visit FDA Center for Veterinary Medicine's website.

CON: Steroids and Hormones are Safe for People

S: According to... U.S. Department of Agriculture, April 13, 2022

<https://www.fda.gov/animal-veterinary/product-safety-information/steroid-hormone-implants-used-growth-food-producing-animals>

Q: It states...

All approved steroid implant products have a zero day withdrawal. This means that the meat from the animal is safe for humans to eat at any time after the animal is treated. Unless otherwise approved and labeled for reimplantation, only one ear implant may be given to an animal during a specific stage of growth. No steroid hormone implants are approved for growth purposes in dairy cows, veal calves, pigs, or poultry. All of the steroid hormone implants are available for over-the-counter purchase in the U.S. and are generally given by the livestock producer at specific stages of the animals' growth.



"Bringing Debate to the Bluegrass!"

BDC Evidence Packet (v. 3.5)
Topic: Increasing Organic Agriculture
<https://bluegrassdebate.org/> [Pg.33]

CON Evidence (Health): Continued...

CON: Steroids and Hormones are Thoroughly Tested

S: According to... U.S. Department of Agriculture, April 13, 2022

<https://www.fda.gov/animal-veterinary/product-safety-information/steroid-hormone-implants-used-growth-food-producing-animals>

Q: It states...

The FDA approves these drugs only after information and/or studies have shown that the food from the treated animals is safe for people to eat, and that the drugs do not harm the treated animal or the environment. The drugs also have to be effective, meaning that they work as intended. The labeling for each product provides all instructions for safe and effective use and is approved by FDA. For each approved product, the FDA also makes available to the public via its website a Freedom of Information Summary that summarizes the information that FDA used to determine that the drug is safe for the treated animals, the animal products (edible tissues such as meat) are safe for humans to eat, and that the product is effective.



CON Evidence (Ethics ex. Treatment of Animals)

CON: Ranchers' Care for Animals a 'Top Priority'

S: According to... *Beef Magazine*, April 21, 2011

<https://www.beefmagazine.com/blog/ranchers-letter-you-about-animal-abuse>

Q: It states...

As a rancher, I grew up eating the meat and produce we raised on our family-owned farm, and I was confident that these foods were grown with ethics and sustainability in mind. The photos posted in today's blog are of my sisters and me with our cattle. Rain, snow or shine, I'm personally invested in our business on a daily basis, and I have a deep love and compassion for every calf on our place. Animal welfare, environmental stewardship and sound business practices are a model we follow closely, with the care of the animal a top priority.

CON: Animals Still Overcrowded (ex. Rules are manipulated)

S: According to... Prof. Robert Paarlberg, Harvard University, *Harvard Gazette*, February 2, 2021

<https://news.harvard.edu/gazette/story/2021/02/author-robert-paarlberg-argues-against-buying-organic/>

Q: He states...

Most organic egg production today looks like nonorganic egg production. I sometimes take students to a Pete and Gerry's organic egg farm in New Hampshire, so they can see what the mainstream organic sector looks like. This is a well-managed operation, but it consists of a single long structure housing 20,000 tightly packed birds. The building has open bays that provide access to a fenced area outside, so it can be certified organic. And there are other, even bigger, egg operations. This means... organic rules can be exploited so animals are still overcrowded because the company manipulates the rules.

CON: Biased Against Ranchers (ex. Main Goal = Veganism)

S: According to... *Beef Magazine*, April 21, 2011

<https://www.beefmagazine.com/blog/ranchers-letter-you-about-animal-abuse>

Q: It states...

Undercover videos on farms have been the topic of legislation in many states across the country, and the discussion of private property rights vs. the rights of animals has been a huge debate as of late. No matter where you stand on the topic, I think it's important to note that MFA didn't report these abuses immediately, and the group's main goal is to push a vegan diet -- a politically-charged lifestyle change aimed at eliminating U.S. farms and ranches.

This means... we cannot trust the motives of the people reporting so-called animal abuses... they think eating any animal is an abuse. Such a biased source cannot be trusted in this debate.

CON: Regulations Prevent Animal Mistreatment

S: According to... *The Pew Research Center*, November 29, 2016

<https://www.pewtrusts.org/en/research-and-analysis/blogs/stateline/2016/11/29/farmers-push-back-against-animal-welfare-laws>

Q: It states...

Laws like this one, which strictly regulate how farm animals are confined, are becoming more common across the U.S., as large-scale farming replaces family farms and consumers learn more about what happens behind barn doors. Massachusetts is the 12th state to ban the use of some livestock- and poultry-raising cages or crates, such as gestation crates for sows, veal crates for calves or battery cages for chickens, which critics say abusively restrict the animals' movement.

CON: Farmers Don't Abuse Animals (ex. Policies are Misunderstood)

S: According to... *The Pew Research Center*, November 29, 2016

<https://www.pewtrusts.org/en/research-and-analysis/blogs/stateline/2016/11/29/farmers-push-back-against-animal-welfare-laws>

Q: It states...

Farmers acknowledge that some people who do not spend much time on farms may object to some of their practices. But they say that they do not abuse animals and that their practices are the most efficient and safest way to keep up with demand for food. And, they say, complying with restrictions on raising poultry and livestock like those approved in Massachusetts are costly for them and for consumers.



"Bringing Debate to the Bluegrass!"

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Topic: Increasing Organic Agriculture
<https://bluegrassdebate.org/> [Pg.35]

CON Evidence (Ethics): Continued...

CON: Ignorant Farm Policies Motivated by Politics

S: According to... *The Pew Research Center, November 29, 2016*

<https://www.pewtrusts.org/en/research-and-analysis/blogs/stateline/2016/11/29/farmers-push-back-against-animal-welfare-laws>

Q: It states...

They point to an 18 percent increase in the price of eggs — about 49 cents a dozen — in California last year that was attributed to a law that created strict space requirements for hens. The law applies not just to producers in the state but to producers in other states that sell eggs there. "Our nation's ability to protect its food supply can be threatened by unnecessary regulations driven by activist agendas, often by people who've never set foot on farmland or have no idea what it takes to produce a crop," said Paul Schlegel, director of environment and energy policy for the American Farm Bureau Federation.

CON: Consumer Demands Creating Changes in Farming Practices

S: According to... *The Pew Research Center, November 29, 2016*

<https://www.pewtrusts.org/en/research-and-analysis/blogs/stateline/2016/11/29/farmers-push-back-against-animal-welfare-laws>

Q: It states...

But consumer expectations already are forcing producers to change how they operate, said Josh Balk, vice president of farm animal protection at the Humane Society of the U.S. Demand for free-range eggs and grass-fed beef is growing, pushing large companies to change their standards. Wal-Mart and McDonald's recently committed to using only suppliers that raise cage-free hens by 2025. Market demands will force producers to change their practices or be left behind, Balk said. The U.S. Department of Agriculture projects that to meet demand, the industry will have to convert over half its egg production to cage-free systems by 2025, up from the current rate of 10 percent.



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