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*Make every day an Earth Day!*

## The Environmental Benefits of Organic Farming Can Organic Food Be the Savior to Climate Change?

In the last decades, the food industry has increasingly been exposed for its use of harmful chemicals. For instance, in 2018, a large agricultural biotechnology corporation that produced a highly toxic herbicide with the active ingredient *glyphosate* was accused of failing to warn consumers that this very ingredient was linked to lymphoma cancer. Following many other alarming food scandals in the agricultural industry, combined with studies showing that organic food has lower pesticide exposure and contains more beneficial nutrients such as antioxidants than conventionally grown food, shoppers in North America have shown growing interest in organic food. The Environmental Working Group even published an annual shopper's guide to pesticides in produce called "Dirty Dozen", which exposes the twelve crops to absolutely avoid buying non-organically due to their high pesticide content (consult the full list here: <https://www.ewg.org/foodnews/full-list.php>).



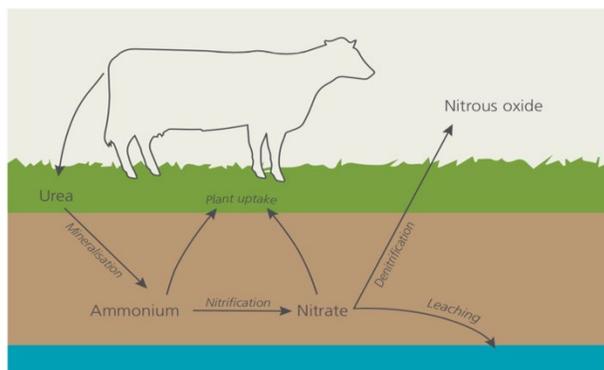
However, new research has been emerging on another important benefit of organic farming: its environment-friendly impact. A growing number of consumers are now committed to defeating climate change through sustainable agricultural methods. In this news pod, we will dive into the environmental benefits of organic farming.

*But first, let's define what is organic produce.*

The land must be free of synthetic pesticides and fertilizers for three years before an organic crop can be grown. Naturally found pesticides, such as compounds derived from plants, may be used in organic agriculture. Due to the absence of synthetic fertilizer and pesticides, organic agriculture is more, most organic farms practice "crop rotation", which helps build up and maintain soil fertility. In addition, since the demand for organic food has been lower than for its conventional counterpart, organic production cannot achieve significant economies of scale. In other words, farmers cannot fully benefit from the negotiation power and savings occurring when production is increased. Here are three examples of possible economies of scale:

- 1) Farmers can purchase manure at a volume discount when ordered in bulk;
- 2) Large orders from grocery stores and restaurants located in the same area of a city can lower transportation costs.;
- 3) Developing new technologies can maximize food production.

Without economies of scale, the price of organic food in supermarkets remains higher than non-organic food.



*How can organic farming help curb carbon emissions?*

Traditional agricultural practices represent a source of pollution due to its main source of emission, *nitrous oxide*, a gas that is 300 times more potent than carbon dioxide. In fact, *nitrogen*, which is present in most fertilizers, is released



into the air as *nitrous oxide*, when it is unused by plants. However, natural nitrogen fertilizers, used in organic farming, such as compost and manure, release just half the nitrous oxide compared to synthetic nitrogen fertilizers used in conventional farming<sup>1</sup>. Therefore, organic food production is a low emission alternative.

Moreover, according to the Food and Agriculture Organization of the United Nations, organic farming results in healthier soil, water and air. It also does a better job of promoting biodiversity and combating climate change. There is also a more ethical component to its supply chain, since chemical-free farming offers healthier working conditions to the farmers and a sustainable ecosystem for the local wildlife. In recent years, scientists have confirmed that organic farming is a far more sustainable alternative when it comes to food production and can be a savior to climate change. To achieve that, emissions from agricultural production must drop 39% by 2050, according to the World Resources Institute. There is hope that this goal will be achieved, as a staggering 73% of global consumers are ready to change their habits to reduce their environmental footprint<sup>2</sup>.

In conclusion, whether you, as a consumer, have concerns about the toxicity of pesticides, the environmental nuisance of nitrous oxide, or both, there are easy ways to include more organic food in your grocery list. The first step would be to start with the Dirty Dozen guide so you can maximize the impact of your efforts as you slowly transition your diet to a more sustainable and healthier one. As more consumers make the effort to switch to this diet, it will also bring the prices of organic food down, benefitting everyone in the long run.

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<sup>1</sup> <http://joann-whalen.research.mcgill.ca/publications/Agriculture%20Ecosystems%20and%20Environment%20236--88-98.pdf>

<sup>2</sup> <https://www.nielsen.com/eu/en/insights/article/2019/a-natural-rise-in-sustainability-around-the-world/>