

Organic Agriculture is a Critical Tool to Fight Climate Change

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Given its potential for reducing carbon emissions, enhancing soil fertility and improving climate resilience, Organic Agriculture should form the basis of comprehensive policy tools for addressing the future of global nutrition and addressing climate change. International Federation of Organic Agriculture Movements (IFOAM)

Organic agriculture has not been given the kudos it deserves when it comes to mitigating climate change.

But it should and here's why.

Healthy soil is the cornerstone of organic agriculture and a critical solution for addressing climate challenges. Organic farming practices help mitigate climate change by keeping roots in the soil, preventing soil erosion, and sequestering soil carbon. Nutrient-rich, biodiverse soils foster the ability of crops to withstand and adapt to extreme weather-induced events such as droughts, floods, fire, and high winds. Accelerating the adoption of organic agricultural practices in the U.S. and abroad will go a long way toward solving the global climate crisis.

Recent Congressional hearings convened by both the [House](#) and [Senate](#) agriculture committees have put a spotlight on farmers' roles in mitigating and adapting to climate change. The National Organic Coalition has compiled some of the latest scientific research on organic's role in fighting change to help ensure that organic gets the attention it deserves as a climate change solution. Here are a few highlights from that research:

ORGANIC REDUCES A SIGNIFICANT SOURCE OF NITROUS OXIDE EMISSIONS

Nitrous oxide emissions from soils comprise 50.4% of all domestic agricultural emissions. The chemical is a long-lived greenhouse gas (GHG) and ozone depleter, with 310 times the global warming potential of carbon dioxide. But the good news is that organic regulations prohibit the use of synthetic fertilizers, reducing a significant agricultural source of N₂O emissions.

ORGANIC PRACTICES CAN MITIGATE CLIMATE CHANGE

Biodiverse soils are integral to thriving organic farming systems and they also positively impact climate change by sequestering carbon, a prominent greenhouse gas. There are several mechanisms in organic agriculture that lead to carbon sequestration:

1. Organic regulations require the implementation of soil fertility and crop nutrient management practices to maintain or improve soil on organic farms. Organic farmers use crop rotations, cover cropping, and the application of plant and animal manures to promote soil health.
2. Organic regulations prohibit the use of most synthetic pesticides. The absence of pesticides in the soil allows diverse organisms and beneficial insects to flourish, creating biologically active soils.
3. Biologically active soils break down crop residues and release carbon dioxide and nutrients. Stabilized soil organic carbon that adheres to clay and silt particles or resists decomposition is sequestered and can remain in soils for decades or even millennia.
4. Prudent green and animal manure applications, diverse crop rotations, intercropping, and cover cropping all improve organic farm soil fertility and prevent soil erosion, which depletes the amount of carbon the soil is able to store.

Research has shown that if the standard practices used by organic farmers to maintain and improve soils were implemented globally, it would increase soil organic carbon pools by an estimated 2 billion tons per year – the equivalent of 12% of the total annual GHG emissions, worldwide! Sequestering carbon in the soil through climate-friendly agricultural practices is one of the most promising and often overlooked solutions to mitigating climate change.

ORGANIC AGRICULTURE INCREASES RESILIENCE TO CLIMATE CHANGE

Natural disasters are occurring nearly five times as often as they were in the 1970s. As farmers face more severe and more frequent floods, droughts, and temperature extremes they will need to build more resiliency into their farming systems. Organic agriculture, by design, promotes resiliency. For example, the high levels of organic matter in organic farm soils increase soil water retention, porosity, infiltration, and prevent nutrient loss and soil erosion. Biodiversity above and below ground facilitates the ability of organic systems to tolerate, adapt to, and recover from extreme weather conditions.

To learn more, read [NOC's recent testimony to the House Agriculture Committee](#) on the role of organic in fighting climate change.