

Switching to plant-based diets means cleaner air and could save more than 200,000 lives around the world, says study

January 2 2024, by Toon Vandyck and Marco Springmann



Credit: CC0 Public Domain

Adopting a healthier diet will probably feature prominently in many of our New Year's resolutions. But it's often [challenging](#) for people to live

up to their intentions.

But there are good reasons to persist in making deliberate choices about what's on your plate. These choices not only impact your own health, they affect the [health of the planet](#) too.

Food systems represent [one-third](#) of global greenhouse gas emissions. If left unchecked, these emissions would probably add enough extra warming to take Earth's average temperature beyond a 1.5°C rise in the 2060s.

[Research](#) is now also establishing air pollution on the list of problems caused by agriculture. Animal farming, in particular, is a major source of ammonia emissions. These emissions react with other pollutants to form fine particulate matter, which can cause health issues like cardiovascular disease, lung cancer and diabetes.

Our [recent study](#), published in *Nature Communications*, reveals that shifting from current diets to healthier, more plant-based ones could prevent up to 236,000 [premature deaths](#) around the world and boost global GDP—simply by improving air quality.

Healthier diets, cleaner air

According to the [World Health Organization](#), there were 4 million premature deaths linked to outdoor air pollution in 2019. Agriculture is responsible for roughly [one-fifth](#) of these deaths.

We studied what would happen to air quality if people around the world shifted towards diets that are healthier and better for the environment. This includes flexitarian diets with less meat, [vegetarian diets](#) with no meat and vegan diets with no animal products.

Our results show that shifting towards plant-based diets could significantly reduce air pollution. Areas with lots of livestock, such as Belgium, the Netherlands, northern Italy, southern China and the mid-west US (in [Iowa](#), there are eight pigs for every person), would see particularly pronounced reductions in the concentration of fine particulate matter.

Better air quality leads to better health. We found that over 100,000 premature deaths could be prevented globally by adopting flexitarian diets. The health gains from cleaner air add to the benefits obtained from eating a more balanced diet.

These [health benefits](#) increase as people eat fewer [animal products](#). For example, if everyone went vegan, the number of premature deaths from air pollution could fall by more than 200,000. In Europe and North America, adopting vegan diets could reduce premature deaths from all air pollution by about 20%.

Clean air is an often overlooked but important aspect of the work environment. [Research](#) has found that air pollution lowers the productivity of workers in many different jobs, from farms to factories. For instance, studies have shown that [air pollution](#) affects the productivity of [blueberry pickers](#) and [pear packers](#).

Our estimates suggest that cleaner air can have a positive impact on the economy. We found that a shift to vegan diets could increase global GDP by more than 1%—a gain of US\$1.3 trillion.

Enabling change

Improving [air quality](#) is undoubtedly beneficial for our health and the economy. We argue that dietary changes should thus be placed firmly on the policy menu.

Embracing more plant-based diets is a cost-effective strategy for tackling emissions. But it also lowers the need for expensive [investments](#) in emission-reducing equipment for livestock systems, such as [scrubbers](#) that remove ammonia from the air.

Eating less meat would also diminish the need for other, more drastic, measures to curb pollution. For instance, researchers have previously [suggested](#) moving 10 billion animals away from southern and eastern China to reduce ammonia exposure for people in these regions.

Shifting to healthier and more plant-based diets offers a wide range of benefits beyond clean air. These benefits include a lower risk of diet-related diseases, bringing down greenhouse gas emissions and lowering the use of land, water and fertilizers for agriculture.

Achieving ambitious progress in all these areas at the same time will be challenging if we rely on technological solutions alone.

During the summer of 2023, the German supermarket chain Penny carried out a week-long [experiment](#) to raise awareness of the real cost of food products on people's health and the environment. The prices charged to customers factored in the impact of food products on soil, water use, health and the climate.

This concept could be applied more broadly. But to make this policy fair and acceptable, it needs to be coupled with ways to use [tax revenues](#) to ensure consumers are not left worse off, such as reducing [VAT on fruit and vegetable products](#) and [compensating vulnerable households](#). In this way, overall food expenditure would be kept in check and [low-income households](#) would be protected.

Together with measures to [guide farmers in the transition](#), our [food systems](#) can be steered towards sustainability, helping people deliver on

their New Year's resolutions.

More information: Marco Springmann et al, The global and regional air quality impacts of dietary change, *Nature Communications* (2023).
[DOI: 10.1038/s41467-023-41789-3](https://doi.org/10.1038/s41467-023-41789-3)

This article is republished from [The Conversation](#) under a Creative Commons license. Read the [original article](#).

Provided by The Conversation

Citation: Switching to plant-based diets means cleaner air and could save more than 200,000 lives around the world, says study (2024, January 2) retrieved 28 April 2024 from <https://phys.org/news/2024-01-plant-based-diets-cleaner-air-world.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.