

Organic food provides significant environmental benefits to plant-rich diets

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A major new study confirms that a diet high in fruit and vegetables is better for the planet than one high in animal products. The study also finds that organic food provides significant, additional climate benefits for plant-based diets, but not for diets with only moderate contribution from plant products. Published today in open access journal *Frontiers in Nutrition*, this is the first study to investigate the environmental impacts of both dietary patterns and farm production systems. It is also the first to investigate the environmental impact of organic food consumption using observed diets rather than models.

Many organizations, including the UN's Food and Agriculture Organization, advocate the urgent adoption of more sustainable diets at a global level. Such diets include reduced consumption of [animal products](#), which have a higher [environmental impact](#) than plant-based products. This is mainly due to the high energy requirements of livestock farming as well as the very large contribution of livestock to [greenhouse gas emissions](#). Intensive livestock production is also responsible for significant biodiversity loss due to conversion of natural habitats to grass and feed crops.

The method of food production may also influence sustainable diets. Organic agriculture is generally considered more environmentally friendly than other modern production techniques. However, while many studies have investigated environmentally sustainable diets, these have rarely considered both dietary choices and the production method of the foods consumed.

"We wanted to provide a more comprehensive picture of how different diets impact the environment," says Louise Seconda from the French Agence De L'Environnement Et De La Maitrise De L'Energie and the Nutritional Epidemiology Research Unit one of the article's authors. "In particular, it is of considerable interest to consider the impacts of both plant-based foods and organic foods."

To do this, researchers obtained information on food intake and organic food consumption from more than 34,000 French adults. They used what's called a 'provegetarian' score to determine preferences for plant-based or animal-based [food products](#). The researchers also conducted production life cycle environmental impact assessments at the farm level against three environmental indicators: greenhouse gas emissions, cumulative energy demand and land occupation.

"Combining consumption and farm production data we found that across the board, diet-related environmental impacts were reduced with a plant-based diet—particularly greenhouse gas emissions," says Louise Seconda. "The consumption of organic food added even more environmental benefits for a plant-based [diet](#). In contrast, consumption of [organic food](#) did not add significant benefits to diets with high contribution from animal products and only moderate contribution from plant [products](#)."

However the researchers caution that the environmental effects of production systems are not uniform and can be impacted by climate, soil types and farm management.

"We didn't look at other indicators such as pesticide use, leaching and soil quality which are relevant to the environmental impacts of productions systems," says Louise Seconda. "Therefore future studies could also consider these as well as supply chain and distribution impacts of food production."

The authors also say it will be important to conduct further studies to confirm these results and to expand our understanding of how the entire [food](#) production lifecycle impacts sustainability.

More information: *Frontiers in Nutrition*, [DOI: 10.3389/fnut.2018.00008](#)

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