

Sustainability of an Organic Diet

In recent years, organic foods have become more and more abundant in human diets, despite the fact that they are relatively expensive in comparison to non-organic foods. According to the USDA, only four percent of American food sales are made up of organic foods (trends in organic food sales can be seen in Figure B). Organic food sales are common in supermarkets as well as farmers markets across the world but often have a hefty price tag.¹ Many consumers adopt an organic diet for the health benefits but also to reduce their carbon footprint.⁴ Environmental, social, and economical aspects of sustainability all contribute to the decision to transition to an organic diet.

Environmental

A study in Germany compared the impact of organic and nonorganic diets and their overall carbon footprint and land use (seen in figure A). This study found while there was an increase in land use there was a decrease in the carbon footprint.² Another German study found that a diet containing 30% more organic foods decreased greenhouse emissions by 36% compared to the average German diet. Both these sustainable diets decreased the consumption of meats and animal products while increasing the consumption of fruits and vegetables. Changing diet makeup in addition to an organic diet shows a decrease in the impacts of food consumption on the environment.³

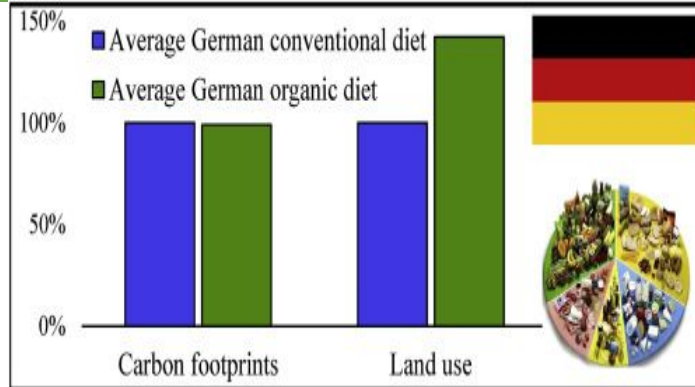


Figure A.²

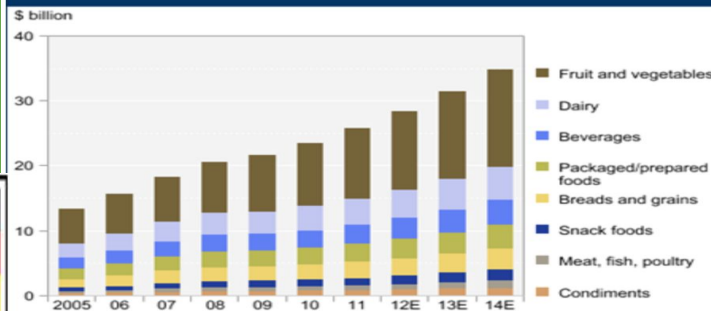
Social

Dietary intake represents the major source of pesticide exposure for infants and children. It was concluded that children who consume an organic diet experience an immediate protective effect against organophosphorus pesticides commonly used in agricultural production.⁴ By adapting an organic diet, consumers can reduce their exposure to antibiotic-resistant bacteria.⁵

Economic

Price is commonly a determining factor in the adoption of an organic diet. In general, organic foods are priced higher than conventionally grown foods. Almost half of organic food sales are made up of fruits and vegetables. Significant price differences (seen in Figure C) may be due to more expensive practices in order to avoid pests and increase production for organic farmers.¹

U.S. organic food sales by category, 2005-14E

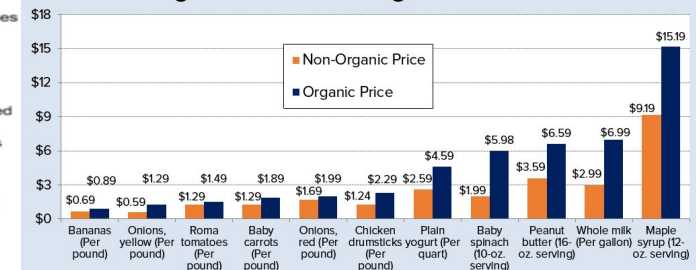


Note: E=estimate. Source: USDA, Economic Research Service using data from Nutrition Business Journal.

Figure B.¹

THE HIGH PRICE OF ORGANIC FOOD

Organic versus Non-Organic Food Prices



Source: Capital Press

Figure C.⁶

Overall, there are both positive and negative implications of an organic diet on sustainability. From an environmental standpoint, organic diets lower greenhouse gas emissions.³ Also, there are some social benefits relating to our next generation.⁴ Unfortunately, high prices may keep people from consuming organic foods.¹

Citations:

- 1) USDA ERS (United States Department of Agriculture - Economic Research Center). Organic Market Overview. 2017. [cited 2018 Nov 1]. Available from <https://www.ers.usda.gov/topics/natural-resources-environment/organic-agriculture/organic-market-overview.aspx>
- 2) Treu H, Nordborg M, Cederberg C, Heuer T, Claupein E, Hoffmann H, Berndes G. 2018. Carbon footprints and land use of conventional and organic diets in Germany. Jour of Clean Prod [Internet]. [cited 1 Nov 2018];161(10)127–142. Available from <https://www.sciencedirect.com/science/article/pii/S0959652617309666>
- 3) Seconda L, Baudry J, Allès B, Soler L-G, Hercberg S, Langevin B, Pointereau P, Lairon D, Kesse-Guyot E. 2018. Identification of sustainable dietary patterns by a multicriteria approach in the NutriNet-Santé cohort. Jour of Clean Prod. [cited 1 Nov 2018];196(20)1256–1265. Available from <https://www.sciencedirect.com/science/article/pii/S0959652618317931>
- 4) Lu C, Toepel K, Irish R, Fenske RA, Barr DB, Bravo R. 2006. Organic Diets Significantly Lower Children’s Dietary Exposure to Organophosphorus Pesticides. Environmental Health Perspectives [Internet]. [cited 2018 Nov 1];114(2)260–263. Available from <http://web.b.ebscohost.com/ehost/detail/detail?vid=0&sid=77378c1b-0372-4151-9c88-1b0ef32612ee%40pdv-v-sessmgr06&bdata=JnNpdGU9ZWVhY29wZT1zaXRl#AN=20256847&db=a9h>
- 5) Shade J. 2016. Organic foods improve health, environment: Your Say. USA Today [Internet]. [cited 2018 Nov 1.] Available from <https://www.usatoday.com/story/opinion/2016/08/15/organic-foods-improve-health-environment-say/88796676/>
- 6) Howe N. 2016. Hedgeye Risk Management | Big Ag's Merger Madness: A Defensive Move Against Emerging Threats. [cited 2 Nov 2018]. Available from <https://app.hedgeye.com/insights/54404-big-ag-s-merger-madness-a-defensive-move-against-emerging-threats>

Organic diet is more sustainable:

<https://www.sciencedirect.com/science/article/pii/S2352550918302070>

<https://www.sciencedirect.com/science/article/pii/S0959652617309666>

<http://proxy.geneseo.edu:2048/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=a9h&AN=20256847&site=ehost-live&scope=site>

<https://www.sciencedirect.com/science/article/pii/S0959652618317931>

<https://www.ers.usda.gov/topics/natural-resources-environment/organic-agriculture/organic-market-overview.aspx> - image

<http://proxy.geneseo.edu:2048/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=a9h&AN=J0E015595649816&site=ehost-live&scope=site>

<https://app.hedgeye.com/insights/54404-big-ag-s-merger-madness-a-defensive-move-against-emerging-threats>