

GMO Myths and Facts

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- 1. GMO farming is better for the climate.** In fact, organic regenerative agriculture is better for the planet. No-till carbon footprint benefits are overstated in Boulder County staff report. Rodale Institute 30 year farm trial <http://rodaleinstitute.org/assets/FSTbooklet.pdf>
Union of Concerned Scientists Agricultural Practices and Carbon Sequestration http://www.ucsusa.org/sites/default/files/legacy/assets/documents/food_and_agriculture/ag-carbon-sequest-fact-sheet.pdf
- 2. GMOs have reduced pesticide usage.** Actually pesticide usage has increased. Roundup is the most heavily used weed-killer in history.
[Benbrook-20 Year Glyphosate Usage Trends](#)
- 3. GMOs increase crop yields.** Studies have shown very modest yield gains, if at all, and the yields from GMO crops pale in comparison to those gained by conventional breeding. The United Nations states that agroecological farming is superior to GMO technology. We do not need GMOs to feed the world.
<http://www.srfood.org/index.php/en/component/content/article/1174-report-agroecology-and-the-right-to-food>
<http://www.ers.usda.gov/publications/eib11/eib11.pdf>
http://www.ucsusa.org/assets/documents/food_and_agriculture/failure-to-yield.pdf
- 4. Glyphosate is a more benign herbicide; it does not persist in air and water.** The World Health Organization (WHO) has declared glyphosate to be a probable human carcinogen. Glyphosate contamination of air and water has been documented. It also persists in the soil and affects mineral uptake. Pesticide formulations as used are far more toxic than originally tested. For example, Roundup is 125 times more toxic than glyphosate alone to human cells.
<http://www.ewg.org/news/news-releases/2011/09/01/government-tests-find-roundup-widespread-water-air>
<http://www.springerlink.com/content/t7h6601566432076/>
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3955666/>
- 5. GMOs may confer drought resistance,** important for Colorado. Actually there are no commercial plantings of drought-resistant crops in the US. In the 30 year study by Rodale Institute, organic yields are superior during times of drought due to the increased tillage in the soil. Conventional breeding outpaces GMO in developing drought-resistant varieties.
http://www.nature.com/news/cross-bred-crops-get-fit-faster-1.15940?WT.ec_id=NATURE-20140918
- 6. GMOs and the use of RoundUp (Glyphosate) will not cause weed resistance.** We now have weed resistance and are engineering additional herbicide resistance into GMO crops; read Monsanto's own literature. <https://www.genuity.com/resources/Pages/Weed-Management.aspx>

7. **The risk of contamination of other crops is low.** There is documented gene flow and gene swapping in these systems according to Boulder County's own data. A recent study showed that **27%** of feral alfalfa populations show the transgenic genes.
<http://www.ask-force.org/web/Coexistence/Byrne-Fromherz-2003.pdf>
<http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0143296>
 8. **Farmers can easily coexist.** There are liability issues with the use of GMOs and pesticide drift on public land. (MN Supreme Court)
<http://www.partnerre.com/opinions-research/gmo-not-new-but-still-an-emerging-liability-risk#.VsFcdvIrLWI>
 9. **GMOs have been proven safe.** There are no documented human health studies; dietary intake cannot be tracked to due to lack of labeling requirements.
 10. **GMO technology is just an extension of natural breeding.** In fact, genetic engineering is a distinctly different technology using laboratory practices to combine DNA from unrelated species, which is an impossibility in nature, and is often not superior to natural breeding.
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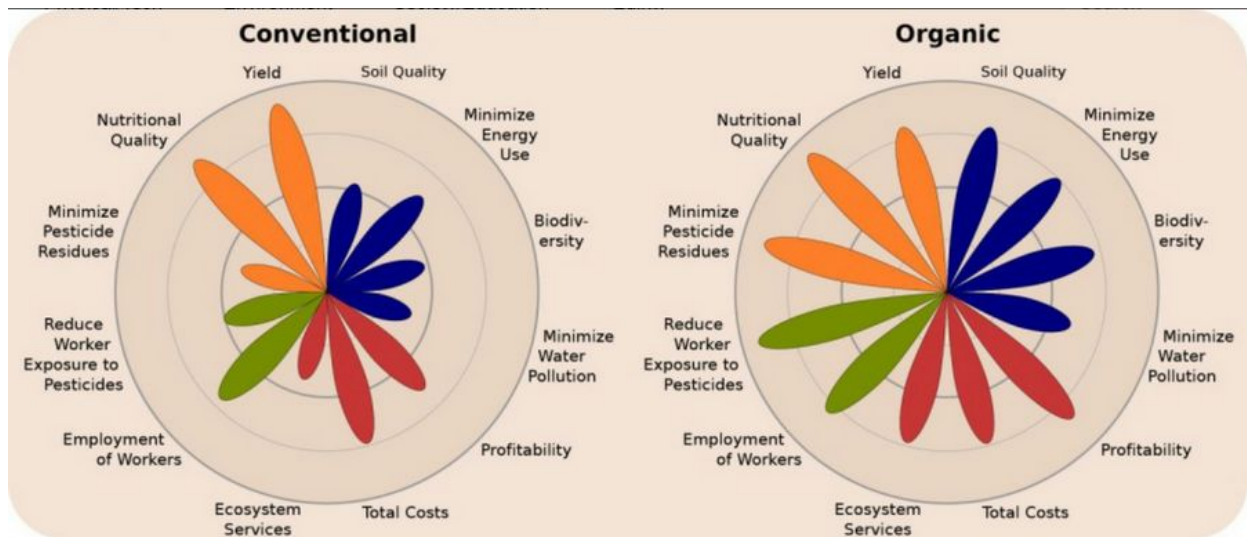
The information below is a good summation of the comparisons of organic versus conventional agriculture in a very recent meta-study.

Organic agriculture in the twenty-first century

- [John P. Reganold](#) & [Jonathan M. Wachter](#), *Nature Plants* **2**, Article number: 15221 (2016)
- doi:10.1038/nplants.2015.221 Published online: 03 February 2016

Abstract

Organic agriculture has a history of being contentious and is considered by some as an inefficient approach to food production. Yet organic foods and beverages are a rapidly growing market segment in the global food industry. Here, we examine the performance of organic farming in light of four key sustainability metrics: productivity, environmental impact, economic viability and social wellbeing. Organic farming systems produce lower yields compared with conventional agriculture. However, they are more profitable and environmentally friendly, and deliver equally or more nutritious foods that contain less (or no) pesticide residues, compared with conventional farming. Moreover, initial evidence indicates that organic agricultural systems deliver greater ecosystem services and social benefits. Although organic agriculture has an untapped role to play when it comes to the establishment of sustainable farming systems, no single approach will safely feed the planet. Rather, a blend of organic and other innovative farming systems is needed. Significant barriers exist to adopting these systems, however, and a diversity of policy instruments will be required to facilitate their development and implementation.



An assessment of organic farming relative to conventional farming illustrates that organic systems better balance the four areas of sustainability.

Credit: Reganold and Wachter

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