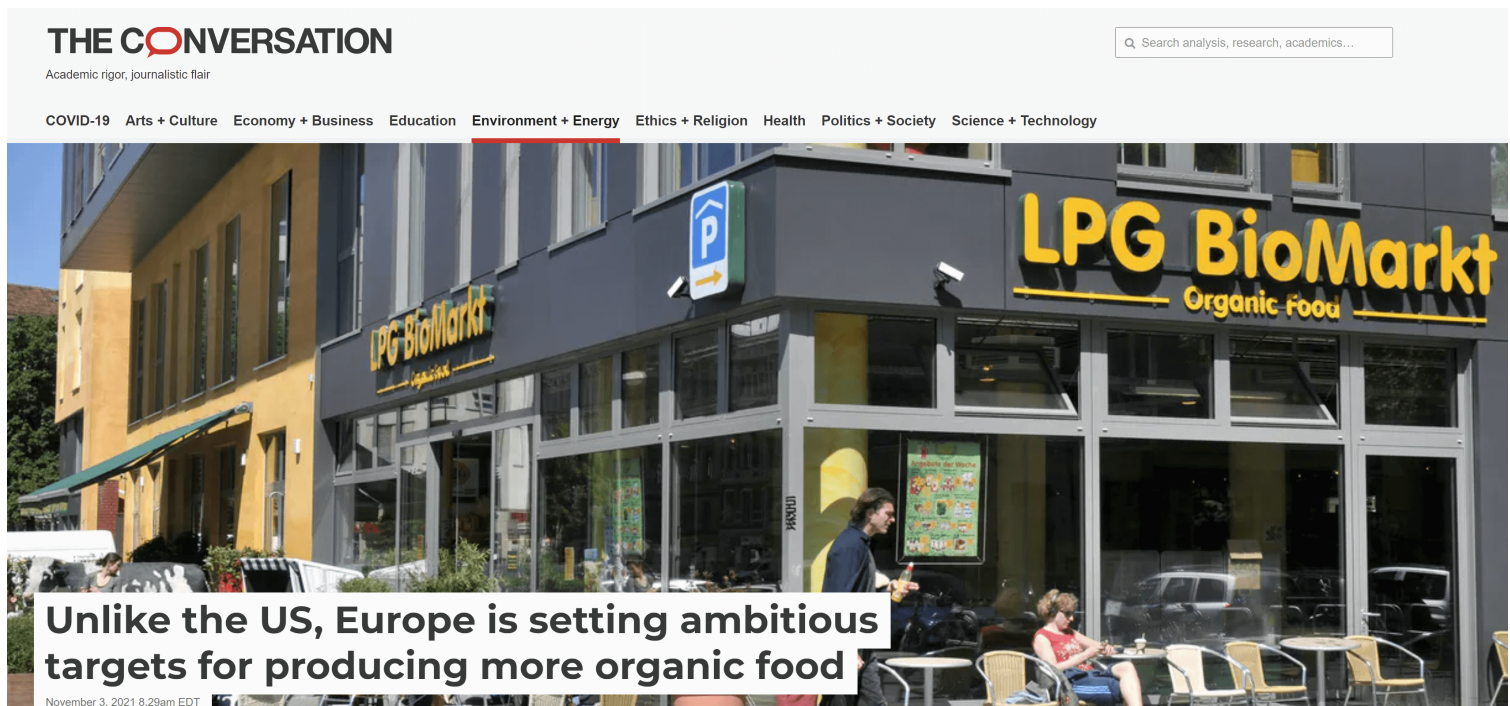


Viewpoint: If you seriously care about threats posed by climate change, steer clear of organic farming

Reporters like to lecture the public about the importance of science while promoting obviously unscientific ideas when it suits them. The pandemic brought this contradiction into the spotlight as news outlets like CNN, The Guardian and The Washington Post defended COVID-19 vaccines while routinely publishing [sloppy stories](#) about the dangers of pesticides and the blessings of eating organic food.

Such inconsistency isn't exclusive to the popular press; it's very common in science media as well. Scientific American has fallen into this trap [multiple times](#), as has The Conversation. While boasting about its "academic rigor" and chastising people for [rejecting scientific consensus](#), The Conversation also publishes misleading stories like this one by Kathleen Merrigan, Executive Director of Arizona State's Swette Center for Sustainable Food Systems: [Unlike the US, Europe is setting ambitious targets for producing more organic food](#).

Recent polls show that a majority of Americans are concerned about climate change and willing to make lifestyle changes to address it. Other surveys show that many U.S. consumers are worried about possible health risks of eating food produced with pesticides, antibiotics and hormones. One way to address all of these concerns is to expand organic agriculture.



Americans say lots of things to pollsters, but what ultimately matters is evidence—and there is none to justify the expansion of organic farming. Let's examine some of Merrigan's claims to see why.

Organic production generates fewer greenhouse gas emissions than conventional farming, largely because it doesn't use synthetic nitrogen fertilizer. And it prohibits using synthetic pesticides and giving hormones or antibiotics to livestock.

Organic farmers typically use fewer pesticides, but so what? The [trace amounts](#) of these chemicals found in conventional food can't possibly cause any harm. Treating sick animals with antibiotics, as the [CDC noted in 2019](#), is the humane thing to do. Merrigan's cited poll results suggest, and this [recent review confirms, that](#) "The desire for meat raised without antibiotics is part of a larger consumer movement toward more 'natural' and sustainable food sources," not any critical threat to human health. Hormones are used in very small quantities to produce more beef from fewer cows, but this also poses no risk to human health. More importantly for our purposes here, fewer cows mean fewer greenhouse gases (GHG).

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A climate change solution?

Overall, [research shows](#) that emissions are lower in organic farming per unit of land, but not per unit of production. Because conventional yields are higher for most crops (up to [40 percent](#) in some cases), we would have to dedicate much more acreage to agriculture to produce the same amount of food organically. "Increasing land under organic cultivation means either converting conventional to organic farms – with a variable but a definite reduction in yield; or converting new land to farming," as our own Dr. Chuck Dinerstien [explained](#) earlier this year.

This fundamentally changes the climate change equation, which is why studies used to justify increases in organic agriculture have to make [unrealistic assumptions](#) about food waste, meat consumption and farm efficiency—there is no meaningful reduction in GHG emissions without them. "All the data I know suggest that organic farming is not the right strategy to reduce global GHG emissions," agricultural economist [Matin Qaim](#) told the Genetic Literacy Project in March. "When the land-use change effects are factored in, organic farming can even have higher global GHG emissions than conventional alternatives (which is even more true when we consider the development and use of new breeding technologies, which are banned in organic farming)."

Merrigan:

The European Union's Farm to Fork strategy ... sets forth ambitious 2030 targets: a 50% cut in greenhouse gas emissions from agriculture, a 50% cut in pesticide use and a 20% cut in fertilizer use.

Europe's goals are admirable; they're also decidedly impractical. A recent assessment conducted by Wageningen University in the Netherlands [found that](#) the EU could experience yield declines between 10 and 30 percent, depending on the crop in question, thanks to its Farm-2-Fork program. Cutting synthetic pesticide and fertilizer use also means more crop damage, which also contributes to lower yields [1]. Lower production in Europe means expanded farmland elsewhere in the world, noted study co-author [Johan Bremmer](#):

If demand remains unchanged, Europe will have to fill the gap by importing more. Plus: if Europe exports less, countries outside Europe will have to produce more themselves ... In every scenario, this indirect land use change is considerable.

With all this in the background, consider that we already farm [roughly half](#) of the available land on earth suitable for growing food, and almost all of the prime arable land. Back to the Conversation:

The world's farmers already produce enough food to feed the world. The question is why many people still go hungry when production increases year over year.

The answer, in brief, is poverty. Poor countries lack the resources necessary to produce and distribute the food they need—though, fortunately, the number of people living in poverty [continues to decline](#). But here's an equally pressing question: what happens when governments force organic agriculture on their populations? Answer: [food shortages](#). As it turns out, denying farmers access to production-boosting tools like biotech seeds and synthetic pesticides and fertilizers has serious consequences. Merrigan calls these observations "US talking points," which she's free to do. But that doesn't make them any less correct.

Conclusion

None of this means that organic agriculture is inherently flawed. When farmers are willing to produce organic products for consumers [who want them](#), everything is as it should be. The obvious problems arise when policy makers and activists decide to force these unsustainable growing practices on millions of people who clearly don't want them. As Merrigan noted, organic operations represent [less than 2 percent](#) of the world's agriculture land. What more evidence do we need that this entire enterprise is an exercise in wishful thinking?

Notes:

[1] Synthetic vs natural is a dubious distinction for pesticides. As my colleague Dr. Josh Bloom points out, it paints a false picture of what pesticides really are by making an artificial distinction between the

chemical and its source.

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