

‘They offer a magical vision of a better future but not in this world’: In Foreign Policy, social scientists opposed to conventional agriculture spark fierce organic vs intensive farming debate

A recent back and forth has stirred up controversy over at Foreign Policy. Are “Big Ag” and intensive farming destroying the planet — or are they our salvation? Is small-scale organic farming the answer, or will it simply worsen our environmental problems? The industrialized food system moved millions of people out of poverty and continues to do so, the Breakthrough Institute’s Ted Nordhaus and Dan Blaustein-Rejto argued in [their original Foreign Policy piece](#):

U.S. dependence on large farms is not a conspiracy by big corporations. Without question, the U.S. food system has many problems. But persistent misperceptions about it, most especially among affluent consumers, are a function of its spectacular success, not its failure.

Any effort to address social and environmental problems associated with food production in the United States will need to first accommodate itself to the reality that, in a modern and affluent economy, the food system could not be anything other than large-scale, intensive, technological, and industrialized.

However, Kansas State University social scientist Matthew Sanderson and Land Institute research scholar Stan Cox [pushed back against this argument, saying](#):

“Big agriculture is best” cannot be an argument supported by empirical evidence. By now, it is vitally clear that Earth systems—the atmosphere, oceans, soils, and biosphere—are in various phases of collapse, putting nearly one-half of the world’s gross domestic product at risk and [undermining the planet’s ability to support life](#). And big, industrialized agriculture—promoted by U.S. foreign and domestic policy—lies at the heart of the multiple connected crises we are confronting as a species.

The litany of industrial agriculture’s toll is long and diverse. Consider the effects of industrial animal agriculture, for example. As of this writing, animal agriculture accounts for [14.5 percent](#) of total anthropogenic greenhouse gas emissions annually. It is also the source of 60 percent of all nitrous oxide and 50 percent of all methane emissions, which have [36 times and 298 times](#), respectively, the warming potential of carbon dioxide. As industrial animal agriculture has scaled up, agricultural emissions of methane and nitrous oxide have been going in [one direction only](#): up.

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Industrial agriculture simplifies ecosystems, rendering us more vulnerable to threats. Transformative policies will be required to pull us back from the edge.

As a start, the United States could set an example for the Global North with a [50-year farm bill](#). The bill would promote ecosystem diversification and increased resilience by reducing acreage of annual grain crops from 70 percent to 10 percent or less of all cropland while scaling up [perennial crops](#) to 80 percent of farmland.

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To which Ted Nordhaus and Dan Blaustein-Rejto [responded](#):

Sanderson and Cox define “industrial agriculture” so capaciously as to be basically synonymous with “agriculture.”

In the United States, that is arguably true. Most agricultural output—and hence environmental impacts—comes from large-scale, industrial production. Globally, it is not true. In both cases, there is no free lunch. Agriculture, unavoidably, has environmental impacts for the simple reason that growing food requires the conversion of forests, grasslands, and other ecosystems into fields whose biocapacity is then monopolized to produce food for people.

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Sanderson and Cox attribute the 14.5 percent of global greenhouse gas emissions that result from animal agriculture to the scaling up of industrial agriculture. But a significant majority of greenhouse gas emissions associated with animal agriculture result from beef and dairy production. Around the world, only [15 percent of beef production](#) is produced intensively. Moreover, most studies find that industrial animal production is [less greenhouse gas intensive](#) than alternative production systems.

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Sanderson and Cox... offer a magical vision of a better future not in this world but the next, calling for a “50-year farm bill” that would remake U.S. agriculture around perennial, as opposed to annual, crops. This has been the work of the Land Institute, Cox’s employer, for over 40 years. By the institute’s own [acknowledgement](#), achieving [yields remotely comparable](#) to annual crops will require at least another 40 years of plant breeding.

Perhaps that will come to pass. In the meantime, making agriculture better, in this world, will require continuing to do what we have been up to for a very long time as humans—innovating to raise the labor and resource efficiency of the food system we have in order to produce more food with less land, less labor, and less environmental impact.

Read Ted Nordhaus and Dan Blaustein-Rejto's original piece [“Big Agriculture Is Best” here](#). Read Matthew Sanderson and Stan Cox's response [“Big Agriculture Is Leading to Ecological Collapse” here](#). Read Ted and Dan's rebuttal [“Small Farms, Big Pollution” here](#).