

## The Limits to Organic Farming in Feeding the World

This is the VOA Special English Agriculture Report.

Organic farming avoids the use of chemical pesticides and manmade fertilizers. Supporters say organic farming is better for the environment than conventional methods. But studies have shown that organic farming generally produces less food per hectare.

That lower yield means feeding the world organically would require more land. But good farmland is limited. And scientists say deforestation from the clearing of land for agriculture is already a problem for climate change.



### Steve Baragona

A new study shows organic crops typically yield less than those raised with artificial fertilizers and pesticides

In a new study, researchers wanted to measure the difference between conventional and organic yields. So they combined the results of sixty-six earlier studies. They found that some organic farms can yield almost as much as conventional farms. But most cannot.

Verena Seufert at McGill University in Montreal, Canada, was the lead author of the [study](#) in the journal Nature.

VERENA SEUFERT: "Conventional yields are typically higher than organic yields. But with certain management practices, certain environmental conditions, and certain crop species, this yield difference can be quite small."

On average, organic farms produced twenty-five percent less compared to conventional farms. But yields of organic fruits and other perennial crops nearly equaled the yields from conventional ones. So did the yields of legumes such as soybeans. Legumes produce some of their own nitrogen fertilizer.

However, organic vegetables and cereal crops like maize and wheat had a lot lower yields compared to conventionally grown crops.

Ms. Seufert says the soil on organic farms holds water better, and that can reduce the yield difference. Also, organic farmers can improve their yields by making sure their crops get enough fertilizer. But increasing the nitrogen is harder to do organically, using just animal waste and crop rotations.

Organic farmers rotate food crops with plants that fertilize the soil. But while these "cover," or fertilizer, crops are growing, food crops have to be grown on other land. And if farmers use manure, they have to feed the animals that produce it, and that requires grazing land or crop land.

The United Nations predicts that world demand for food will grow seventy percent by the middle of the century. John Reganold is a soil scientist at Washington State University. He says no one should dismiss organic agriculture as part of the solution.

JOHN REGANOLD: "I think when people see these studies, their first reaction is, 'Well, my goodness, organic farming can't feed the world.' Guess what? Conventional farming cannot sustainably feed the world."

Mr. Reganold -- who was not part of the study -- says farming is increasingly a combination of organic and conventional methods.

JOHN REGANOLD: "And it's really going to be a blend of these, I think, more diverse systems that are going to save us."

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