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Urban Farming Isn't a Game Changer When It Comes to Carbon Emissions

A new study has found negligible reductions in carbon reduction from urban agriculture projects, which include commercial rooftop plots and public gardens.

BY JOHN DYER · PUBLISHED ON 06/22/2017 · 2:50 PM EDT



An urban farming project in Boston, Mass. | Jonathan Wiggs/The Boston Globe via Getty Images

Hipsters growing kale in a vacant lot aren't going to save the world from global warming — at least not if they're tilling the soil in the northeastern United States, according to new research.

Community and rooftop agriculture in Boston reduced food-related carbon emissions by less than 3 percent per person annually and didn't replace any land being used elsewhere for growing crops for city dwellers, according to a [study](#) published Wednesday in the journal *Environmental Science & Technology*.

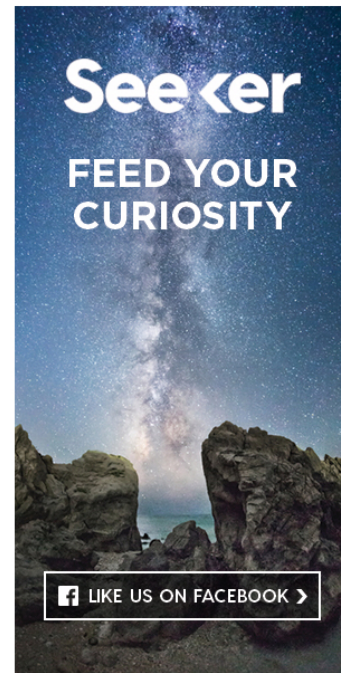
"If your goal is carbon reduction or improvement, then maybe urban agriculture isn't always the best use of finite space within a city," said Benjamin Goldstein, a sustainability researcher at the Technical University of Denmark who was one of the study's co-authors.

Boston is particularly rich in urban agriculture options, which include commercial rooftop plots and public gardens. But the study's findings apply to similar places in Brooklyn and throughout the Northeastern megalopolis that stretches from southern Maine to Washington, DC.

"That's where some of the most vigorous urban agriculture activity is now," Goldstein said. "That is ground zero for the most interesting stuff."

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The problem is that the growing season in the region is too short. In the winter,



Bostonians, Brooklynites, and others emit greenhouse gases when they consume the electricity that's necessary to heat their greenhouses.

"It would be different in Atlanta," he said. "They wouldn't have so much energy input."

Goldstein and his colleagues conducted the study to test whether growing food locally might offset carbon emissions from hauling food over long distances. Around 10 percent of food-related carbon emissions stem from so-called "food miles."

Boosters of urban agriculture have long touted how they are cutting out truck exhaust and other pollutants from the environment and economy. The study was hard on those advocates, saying they were "oversimplifying the complexity of food sustainability to a single aspect."

It turns out growing vegetables in a small plot for a growing season or two doesn't make a dent in food miles, half of which derive from cows releasing greenhouse gases and producing food for livestock, said Goldstein.

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People generally produce around 2,200 kilograms of carbon dioxide annually related to the food they consume, the study noted. It found that urban farming "generated meagre food-related carbon footprint reductions."

Goldstein pointed out that if growers in colder climates focused more on local crops that were ideally suited to the weather, urban farmers might go some way toward significantly reducing their carbon footprint.

"It doesn't make sense to grow a mango in Boston," he said.

But urban farmers would probably achieve a greater reduction of their carbon footprint by simply installing solar panels on their property, Goldstein offered sheepishly, saying he was somewhat disappointed in the study's results.

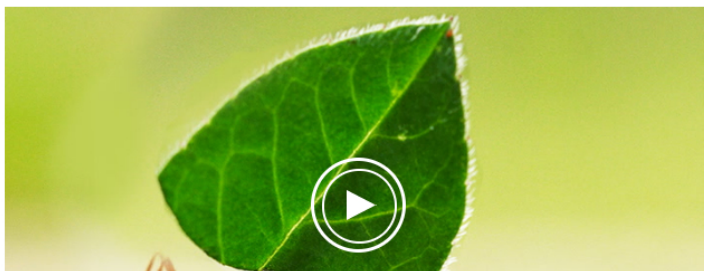
"It was sort of anticlimactic," he said.

But growing food in a city like Boston is not a waste of time, he added. Given the 8,800 acres of arable land that he and his fellow researchers identified in Beantown, he estimates that urban farmers could yield as much as \$160 million a year from selling their harvests — or around \$18,000 per acre annually.

"This could help people in poorer neighborhoods," he said. "You could have some economic activity there, some job generation that could be another reason to promote urban agriculture. That combined with the nutritional benefits seems like a good reason to do it."

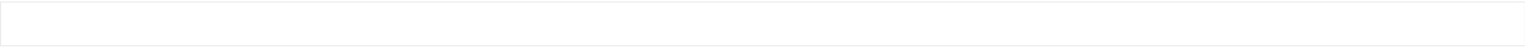
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