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Lola Gayle, STEAM Register

Commercial farms have become one of the leading contributors to **air pollution** in recent years, and that can add to the ever-increasing bulk of greenhouse gas emissions.

And, while it may sound counterintuitive, previous **research** has suggested that adding more vegetables to your diet may not so goof for the health of this wonderful planet we inhabit. As a matter of fact, eating lettuce is more than three times worse in greenhouse gas emissions than eating bacon. And if you're a strict vegetarian, your diet definitely contributes more to climate change.

But what about household gardens? What effect would they have on greenhouse gas emissions?

According to a new **study** by University of California – Santa Barbara research professor David Cleveland and his students, growing your own veggies can actually reduce greenhouse gas emissions and help mitigate global climate change.

Using a lifecycle assessment model, Cleveland and his students demonstrated that greenhouse gas emissions can be cut by 2 kilograms for every kilo of homegrown vegetable when compared to the store-bought counterpart, the team said in a **statement**.

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“We looked at high and low yields and found that they affected the emissions per kilogram of vegetable,” Cleveland explained. “For every square meter of garden, if you get 10 times the amount of vegetables, then the amount of emissions per vegetable goes down, because you’re dividing more vegetables into the emissions per square meter. Ironically, that makes



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the contribution of the garden less on a per-vegetable basis. This means for the garden as a whole, higher yield reduces the emissions because fewer vegetables are purchased."

Another variable also impacted outcomes: the way in which household organic waste was handled.

"There's the potential for home composting to be either positive or negative for the climate," Cleveland said. "It takes a lot of attention to do it right." He noted that if optimal moisture and air conditions are not maintained, the waste becomes anaerobic and emits methane and nitrous oxide, powerful greenhouse gases.

"We found that if household organic waste was exported to landfills that captured methane and burned it to generate electricity, households sending their organic waste to a central facility would reduce greenhouse gas emissions more than composting at home," Cleveland added. "This study shows that in terms of effect on the climate, small things matter," he added. "How much attention you pay to the garden matters. How efficiently the vegetables are produced and consumed matters."

The researchers also calculated the potential contribution of vegetable gardens to official climate change mitigation targets for reductions of greenhouse gas emissions per year, [reports](#) Julie Cohen for UCSB. They found that the gardens contributed 0.5 percent of the city of Santa Barbara's 2050 target, 3.3 percent of the 2020 target for unincorporated Santa Barbara County and 7.8 percent of the state of California's 2020 target.

"In addition to reducing greenhouse gas emissions, there are other potential environmental, social, psychological and nutritional advantages to growing food yourself, whether in a household, community or school garden," Cleveland said. "However, the degree to which those benefits are realized can depend on small things. Our hope is that this research helps motivate households, communities and policymakers to support vegetable gardens that can contribute to mitigating climate change."

Findings of this research are published in the journal [Landscape and Urban Planning](#).

See Also: [Locavore Or Vegetarian? What's The Best Way To Reduce Climate Impact Of Food?](#)

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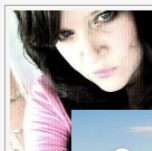
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"Editor by trade, artist by design." Lola Gayle is a Texas-based science writer and editor with over 18 years of experience in the business. Her areas of

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