Study shows simple diet swaps can cut carbon emissions and improve your health

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Curbing carbon emissions and eating healthier may both start at the dinner table.

According to a new study co-authored by a Tulane University researcher and published in the journal *Nature Food*, making simple substitutions like switching from beef to chicken or drinking plant-based milk instead of cow's milk could reduce the average American's carbon footprint from food by 35%, while also boosting diet quality by between 4-10%, according to the study.

These findings highlight the potential of a “small changes” approach that researchers believe could encourage more consumers to adopt climate-friendly eating habits. Food production accounts for 25-33% of the nation’s greenhouse gas emissions with beef production being a primary contributor.

“This study shows that cutting dietary carbon emissions is accessible and doesn’t have to be a whole lifestyle change,” said Diego Rose, senior author and nutrition program director at Tulane University School of Public Health and Tropical Medicine. “It can be as simple as ordering a chicken burrito instead of a beef burrito when you go out to eat. When you’re at the grocery store, move your hand one foot over to grab soy or almond milk instead of cow’s milk. That one small change can have a significant impact.”

The study, which analyzed diet data from over 7,700 Americans, identified commonly eaten foods with the highest climate impact and simulated replacing them with nutritionally similar, lower-emission options.

“For us, substitutes included swapping a beef burger for a turkey burger, not replacing your steak with a tofu hotdog,” said Anna Grummon, lead author and assistant professor of pediatrics and health policy at Stanford University. “We looked for substitutes that were as similar as possible.”

The largest projected reductions in emissions were seen in mixed dishes: burritos, pastas and similar popular dishes where it’s easy to substitute a lower-impact protein instead of beef.

The study expanded on past research by including dietary data for children. Whereas it may be more effective for an adult to focus on protein swaps, Grummon said switching children to plant-based milk can have a “meaningful impact on the carbon footprint” and help start positive habits earlier.

Identifying healthy alternatives to high-carbon foods was not the intent of the study. And yet, swapping to lower carbon foods showed “sizable improvements in how healthy the diets were.”

While these substitutes are not intended as a cure-all for climate objectives or personal health goals, they are evidence that small changes can have a large impact.

“There is overlap between sustainable diets and healthy diets,” Grummon said. “Our study shows that changing just one ingredient, making one swap, can be a win-win, resulting in meaningful changes in both climate outcomes and how healthy our diets are.”

Other co-authors of the study included Cristina Lee and Thomas Robinson of Stanford University and Eric Rimm of Harvard University.