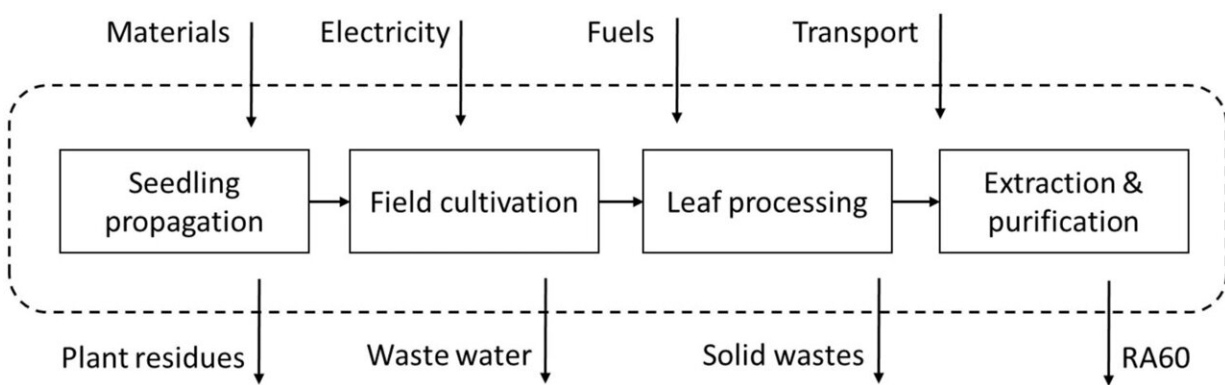


Stevia based sweeteners may offer a sweeter, more environmentally friendly alternative to sugar

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System boundaries for the life cycle assessment. Credit: *The International Journal of Life Cycle Assessment* (2023). DOI: 10.1007/s11367-022-02127-9

Natural sweeteners derived from stevia may produce as little as 10% of the greenhouse gas emissions of sugar while still providing the same level of sweetness, according to new research from the University of Surrey.

Researchers conducted a Life Cycle Assessment on steviol glycosides extracted from stevia and found that the production of the sweetener caused less [environmental impact](#) across a wide range of markers, when compared to sugar. For example, it offers an opportunity to reduce [land](#)

[use](#) or [water consumption](#) compared to the same level of sweetness as sugar.

Many non-nutritive sweeteners (NNS), like steviol glycosides, can reproduce the taste of sugar, but without the associated health risks, such as [tooth decay](#), obesity, or diabetes. They can do this because they are many times sweeter than sugar. For example, 4g of steviol glycosides provides the sweetness equivalent of 1,000g sugar, because it is perceived to be 250 times sweeter.

Dr. James Suckling, lead author of the study working in the University of Surrey's Centre for Environment and Sustainability, said, "The use of steviol glycosides and similar natural products could be sweet news for the health of our planet. However, our study readily admits that much more work needs to be done to understand the health impacts of steviol glycosides and other non-nutritive sweeteners when consumed as part of a wider diet."

Surrey's research is part of the Horizon 2020 SWEET project—a multiyear collaboration with 30 organizations to better understand the health and environmental benefits of NNS.

The research is published in *The International Journal of Life Cycle Assessment*.

More information: J. Suckling et al, Environmental life cycle assessment of production of the high intensity sweetener steviol glycosides from *Stevia rebaudiana* leaf grown in Europe: The SWEET project, *The International Journal of Life Cycle Assessment* (2023). [DOI: 10.1007/s11367-022-02127-9](https://doi.org/10.1007/s11367-022-02127-9)

Provided by University of Surrey

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