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Case Study

Circular short-chain fatty acids as feed ingredient for sustainable animal nutrition



Overview

The animal nutrition sector is under increasing pressure to reduce greenhouse gas emissions, improve resource efficiency and decrease reliance on imported raw materials linked to deforestation and fossil resources. One promising solution is the use of circular feed ingredients produced from agricultural side streams.

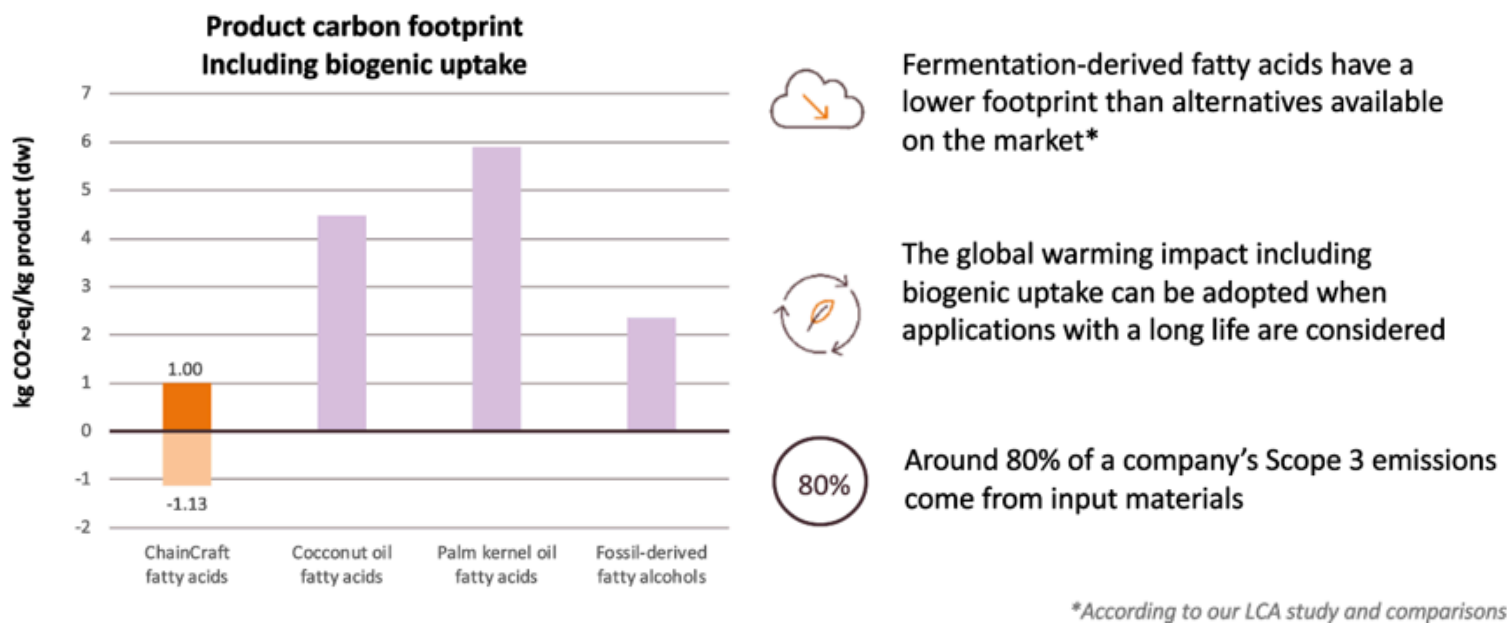
Locally available agri-food residues are converted into high-purity short-chain fatty acids (SCFAs) through a unique fermentation process. Compared with conventional fossil-derived production routes, this circular approach delivers ingredients with the same functional properties for animal nutrition while significantly reducing their environmental footprint.

By combining ChainCraft's expertise in circular ingredient production with Innovad Group's application knowledge in animal nutrition, the strategic collaboration between the two companies supports healthier animals, improved feed efficiency and more resilient European supply chains.

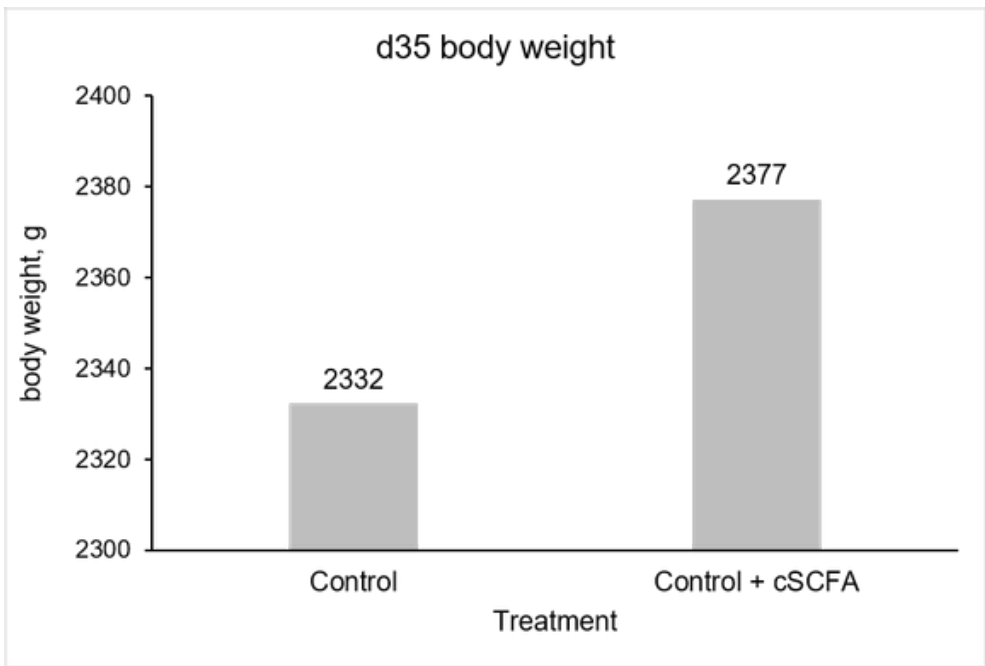
By transforming food-processing residues with limited value into valuable feed ingredients, this contributes to a more circular agricultural system and resource use and helps feed manufacturers meet future sustainability and deforestation-free sourcing goals.

Impact

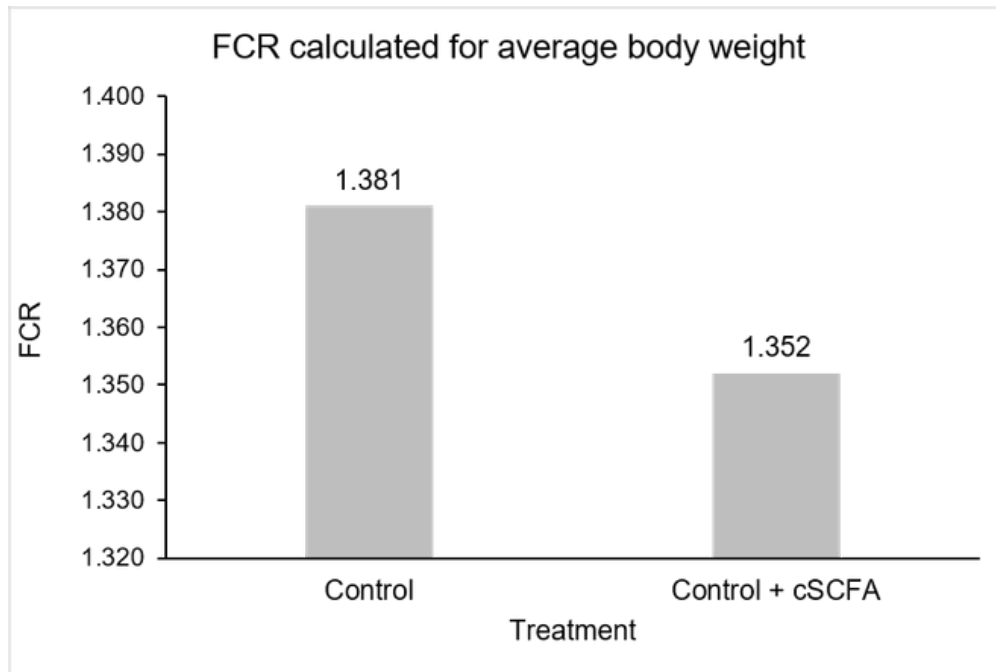
Independent cradle-to-gate life cycle assessment results indicate that the fermentation-based production route reduces greenhouse gas emissions up to six times compared with conventional fatty acid production.



In animal nutrition, conventional SCFAs are well documented to support gut development, animal resilience and feed efficiency. This means improved animal health and growth performance and that less feed is required to achieve this grow, thus lowering resource use and environmental impact.



Results of a recently finished broiler trial indicate that circular SCFAs (cSCFA) can deliver comparable animal-performance benefits (increased final body weight, improved FCR) as previously shown with conventional SCFAs (see figures previous page and below).



Supporting Materials:

- [Life Cycle Assessment](#)
- [Innovad Group receives first industrial load of sustainable fatty acids](#)

*This sustainability-related case study was provided by **Innovad Group**.*

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