Understanding the Recipe Simulator results

The Recipe Simulator, developed by KMC in collaboration with Nature Preserve, is designed to support discussions around recipe formulations and ingredient selection. The tool provides comparative estimates of how recipe composition may influence climate impact and is intended for business-to-business use as a screening and decision-support tool.

The examples presented by KMC are illustrative scenarios developed to explore the potential climate implications of ingredient substitution. Each simulation compares a reference recipe with an equivalent recipe in which a selected ingredient has been replaced by a KMC ingredient, while all other recipe parameters remain unchanged unless otherwise stated. The examples are intended to illustrate how recipe choices may influence the climate impact and do not represent verified performance claims for commercially available products.

The simulator follows a cradle-to-gate approach, covering raw material production, ingredient transportation, manufacturing processes and energy use during production. Packaging, distribution, product use and end-of-life treatment are excluded. Calculations are based on the methodology and modelling framework developed by Nature Preserve. The simulator draws on recognised life cycle assessment data, published literature, standardised datasets and where available, product- and supplier-specific information. Where specific data are unavailable, Nature Preserve may apply generic datasets and assumptions to ensure consistency and comparability across recipe scenarios.

The results should be interpreted as indicative estimates. They are intended to support the evaluation of recipe alternatives under the stated assumptions and may not be representative of other products, formulations, or applications. Actual climate impacts may vary depending on product specifications, sourcing, production processes, and other factors not reflected in the simulation.

The Recipe Simulator does not generate verified product carbon footprints, and its results are not intended for use in public climate claims, marketing claims, or product-specific carbon footprint declarations. Any communication regarding the climate impact of a specific product should be based on an appropriate product-specific assessment conducted for that product and application.

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