

More sustainable, resilient, and competitive food systems through the development of intermediate food value chains



PRACTICE ABSTRACT No: 54

Life Cycle oriented origin analysis

The Life Cycle Oriented Origin Analysis (LCOA) is a tool that allows the origin of food and all its components to be entirely recorded and mapped. It fulfills consumers' desire for transparency regarding food origin and allows producers to document, question, and discuss the sources of their material flows. The LCOA is based on the life cycle assessment approach, capturing all the processes in a product's life cycle except the use and disposal phases. Using a functional unit, such as one kilogram of a head of cabbage, it analyzes the origins of material flows like seeds, fertilizers or packaging and assigns them to the final product.

In collaboration with a team of scientists, the following steps must be defined and elaborated:

- **Product Classification and Scope:** Classify your product and define the relevant material flows.
- **Define the Functional Unit:** Choose a functional unit, such as the product unit including packaging or 1 kg net weight of the packaged product.
- **Identify the Relevant Processes:** Identify all processes that generate or alter relevant raw materials, the final product, and ingredients.
- **Assign Mass Values:** Assign mass values to the identified processes.
- **Specify Cut-off Value:** Determine the maximum number of relevant processes that can be disregarded in the subsequent origin analysis, analogous to LCA.
- **Define Scales for Geographical Unit Areas:** Define appropriate scales for geographical unit areas to specify each relevant process along the supply chain.

Once an LCOA has been successfully carried out, information on the origin of the material flows can be provided. The results can be discussed by producers and communicated to the public, creating greater transparency for both producers and consumers.

Relevance: For the food producer, having a LCOA offers a strong Unique Selling Proposition (USP), because most competitors do not yet offer this quality of information about the origin of their products.

Authors

Eva Arhar
Simon Berner

Affiliation

FH JOANNEUM

Contact

eva.arhar@fh-joanneum.at;
simon.berner@fh-joanneum.at

End Users

Farmer & Cooperative,
Industry & Retail,
Technology provider

Country

Austria



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Links for additional information

[FAIRCHAIN - FH JOANNEUM \(fh-joanneum.at\)](http://fh-joanneum.at)



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[FAIRCHAIN EU](https://www.linkedin.com/company/fairchain-eu)



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ABOUT FAIRCHAIN

The FAIRCHAIN project launched in 2020 and coordinated by INRAE, is developing intermediate food value chains in the fruits and vegetable and dairy sectors. Through technological, organizational and social innovations and by developing business models FAIRCHAIN will enable small and mid-size stakeholders to scale up to supply fresh, sustainable and high-quality food products to consumers at a regional level.

FAIRCHAIN PARTNERS



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