

Food processing

Life cycle assessment of food processing and co-products uses evaluation

Background:

A nutritious and varied diet is integral part of a healthy lifestyle. Before it reaches consumers, food requires resources and energy for its production. A large share of Swedish food market is composed of processed foods, also some foods are processed in Sweden before they are exported. Food processing co-products' have a variety of destinations such as serving as input to another food product, they may be processed into animal feed, other parts can serve as energy input etc. In the scope of sustainability, optimizing food processing and reducing losses in the food supply chain is paramount.

Project aim:

The primary aim of this project is to carry out an LCA of a food product. The secondary aim is an investigation of current and possibly alternative uses of co-products from the food processing step. After completing this project, the students would be familiar with carrying out an LCA and with using it as a tool to the reduction of environment impacts of a food product supply chain.

Project steps:

In this project, one or more specific food item will be selected together with the supervisor, possibly fruit juice, fish, algae. In the initial phase the students would familiarize themselves with the existing literature on the chosen food item. The students would then move on into creating a life cycle inventory for the selected food, including the identification of the main uses of co-products. The life cycle impact assessment will then be carried out to identify the hotspots and improvement opportunities.

Requirements:

This project is ideal for students who are interested in the reduction of environmental impacts through a product perspective. Students should be interested in a hands-on learning and application of the LCA tool. Previous knowledge of LCA is desired for this project.

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