Eaternity Database References  
[2020-12-10]

This list contains main external data sources used in the Eaternity Database. Eaternity works with the LCA software Brightway to adjust and improve datasets to fit best the purpose of our solutions. The scope of our data currently covers food products from farm to gate.

The calculation routine covers 3 different cases. While the „Eaternity Score“ is the most detailed, it currently requires the manual exchange of questionnaires, that go into details of the individual production method a product. The „Eaternity Lean“ case, is working on automatizing this data exchange to reduce costs and efforts for the calculation from 3500€ to 120€. It heavily relies on that the correct primary data for the production processes are provided without manual request and that they are complete. Theoretically could the precision of „Eaternity Lean“ be identical to the „Eaternity Score“ - yet in practice this is not yet the case. Therefor only calculation done with the „Eaternity Score“ method are allowed to be printed on the package of the product. While the „Eaternity Lean“ calculations can only be used everywhere else (website, price-labels, strategy planing, etc.). The „Eaternity Gastro“ calculation allows for a lowest cost, fully automized solution for the assessment of recipes and restaurants.

### Eaternity Score

**Calculation steps for the Eaternity Score**

- **Ingredient / base product (cradle to farm gate)**
- **Processing of ingredients**
- **Origin & Transportation**
- **Manufacturing of end-product**
- **Packaging**
- **Storage & Distribution**
- **Consumption & Preparation**

Ingredients are linked to a base product in the Eaternity Footprint Database (EDB). Organic or conventional, wild-caught or farmed, labels and greenhouse production are considered.

If the base product is processed the impact of processing is calculated. Examples are fermentation, drying, concentration, juice production, baking etc.

Every ingredient is linked to an origin. This determines transportation routes, country specific footprint data such as deforestation, seasonality, energy data etc. Final nutritional and environmental data are assigned.

The impact of all ingredients of the end-product and the impact of the manufacturing process are calculated. This includes preservation.

Production of raw materials, packaging, transport to product manufacturer, disposal of packaging.

Cooled, frozen storage till end-customer and transport for distribution

Eaternity Score: climate score, water score, animal welfare and rainforest score

Final storage and preparation, transport, foodwaste and disposal at home or in a restaurant are not considered.

EDB, Nov. 2020
1. Databases

LCI

Ecoinvent - https://www.ecoinvent.org


Agri-food Database - ZHAW - www.zhaw.ch/IUNR/agri-food

Agri-foodprint database - Blonk Consultants - http://www.agri-footprint.com


BONSAI – Big Open Network for Sustainability Assessment Information - http://bonsai.uno

Hestia - Harmonized Environmental Storage and Tracking of the Impacts of Agriculture http://www.hestia.earth

2. Reports & Publications

2.1 Climate Score

Ecoinvent, Zurich, Switzerland


ZHAW Institute of Natural Resource Sciences, Wädenswil, Switzerland


www.zhaw.ch/IUNR/agri-food. LCIA also available at the Eaternity Database (EDB - edb.eaternity.org).


Quantis

Thierrin, R. Meat and Egg LCI. Documentation of LCI dataset for beef, chicken, pork, trout meat and egg production created for the Eaternity database., (2017). Quantis, Zürich, unpublished report.

Other


2.2 Water Footprint

O’Connor, I, Ellens, J (2018). Which indicators in addition to the carbon footprint are most important to consider when we evaluate the impact of food consumptions? Unpublished summary report. Eaternity AG, Zurich. Engagement Migros development fund.


2.3 Animal Welfare Label

O’Connor, I, Ellens, J (2018). Which indicators in addition to the carbon footprint are most important to consider when we evaluate the impact of food consumptions? Unpublished report. Eaternity AG, Zurich. Engagement Migros development fund.

2.4 Rainforest Label

O’Connor, I, Ellens, J (2018). Which indicators in addition to the carbon footprint are most important to consider when we evaluate the impact of food consumptions? Unpublished report. Eaternity AG, Zurich. Engagement Migros development fund.

2.4 Health Score


Nutrients – losses through cooking processes

BOGNÁR, A. 2002. Tables on weight yield of food and retention factors of food constituents for the calculation of nutrient composition of cooked foods (dishes). Karlsruhe, BFE.


and retention factors for imputing nutrient values for composite foods. European Food Information Resource (EuroFIR).

**Nutrients – recommended daily amounts**
