

# Unprocessed Foods: A Sustainable Future

Unprocessed foods allow for a smaller environmental impact than processed foods.

By: Sabrina Medina, Jessica Stone, and Callie Terpstra

## What are Unprocessed vs. Processed Foods?

Processed foods have been deliberately changed before they are available for purchase. This process uses energy, produces pollution, and results in a loss of biomass and nutrients.

## What is Sustainability?

- Sustainability allows us to meet current needs without compromising this ability for future generations.
- A sustainable food system would include environmental, societal, and economical measures.



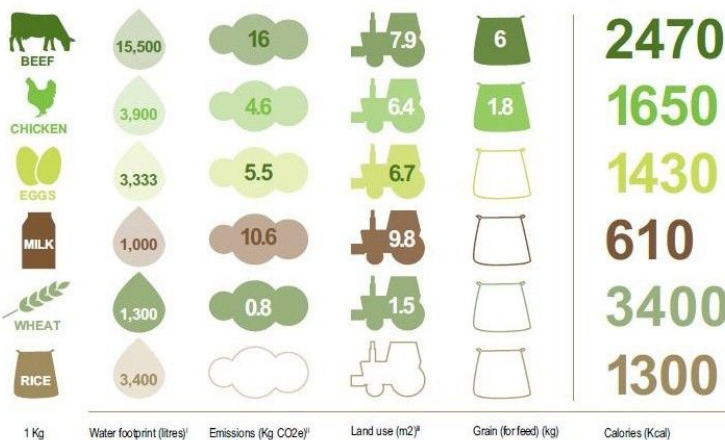
## Unprocessed Foods Contain A Higher transfer of energy

Less energy is taken away from unprocessed foods before it is consumed. Plants are at the lowest trophic level in a food chain, meaning it contains the highest amount of potential energy. With processed foods, the manufacturing and transformation of the product takes away from the raw trophic energy contained in that plant when it was grown. Unprocessed food maintains its original trophic energy, therefore making it much more sustainable to consume (Kroyer).

## Processed Foods Create Waste

- Each step in the agricultural and food industry system is characterized by by-products, waste, and air emissions with possible impact on the environment.
- Excess waste from the processing industry can damage the surrounding ecosystems from contaminating food and water sources to destroying habitats.
- Unprocessed foods do not require such heavy waste production. Unprocessed foods, from the grower to the consumer, creates significantly less impact on the environment from waste. (Kroyer)

Figure 3: The ecological footprint of food



<sup>1</sup>Assumes an average egg weighs 60g, and the density of milk is 1kg per litre.

<sup>2</sup>Based on production in England and Wales

<sup>3</sup>Based on production in England and Wales, assumes all production is on land of an equal grade

Sources: Water <http://www.waterfootprint.org/?page=files/productgallery>; emissions and land use UK DEFRA (2006), <http://goo.gl/T12ho>; grain National Geographic, <http://goo.gl/4CgFB>; calories USDA National Nutrient Database, <http://goo.gl/7egTT>

In the chart above, we see six of the most common foods included in the processing industry. The breakdown of the energy required for each shows the drastic ecological footprint left by the production of these foods.

## In Summary:

Some may argue that processed foods are better because packaged foods have a longer shelf life, allowing you to keep food for longer ('Green choices'). However, the ecological impact of the food production industry, including habitat destruction from agriculture and processing, and pollution from waste material, can lead to biodiversity loss in food webs and a loss of available energy in an ecosystem (Nesheim).

Sources:

G.Th. Kroyer. "Impact of food processing on the environment—an overview." LWT - Food Science and Technology. Volume 28, Issue 6. 1995.

Nesheim MC, Oria M, Yih PT. "Environmental Effects of the U.S. Food System." Committee on a Framework for Assessing the Health, Environmental, and Social Effects of the Food System. National Research Council. Washington D.C. <https://www.ncbi.nlm.nih.gov/books/NBK305187/>