Eco-production of Food: Reducing the Impact of Food Waste

EPSRC CENTRE FOR INNOVATIVE MANUFACTURING IN Food

RESEARCH AIM

Local and global food and drink manufacturing companies are currently facing several challenges that will impact their ability to supply sufficient quantities and quality of food in the next few decades. The overall aim of this research is to reduce the amount of food waste generated across the entire supply chain as well as the environmental impact associated with the management and disposal of this waste.

RESEARCH METHODOLOGY

The project is based on four stages, namely a definition of a precise terminology on food waste, categorisation and quantification of different types of waste at various stages in the food supply chain, environmental impact assessment of different options to manage food waste, and selection of the most appropriate food waste management alternatives.

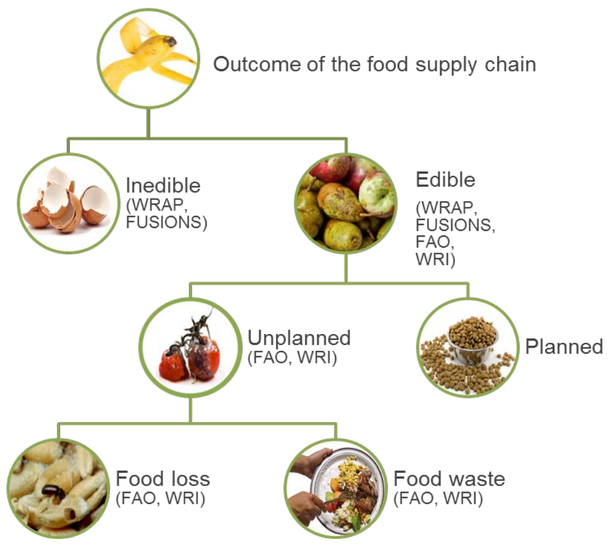
1. DEFINITION OF FOOD WASTE

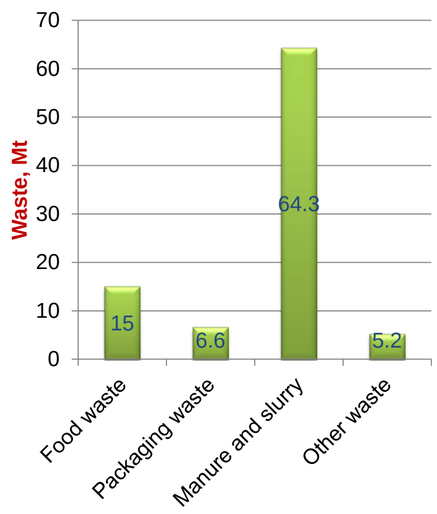
IDENTIFIED ISSUE

There is not a consensus on the exact meaning of the term 'food waste'. Different types of food waste have not been identified.

PROPOSED SOLUTION

Define a precise terminology on food waste. Design a waste model for the whole food supply chain with clear boundaries of the system.





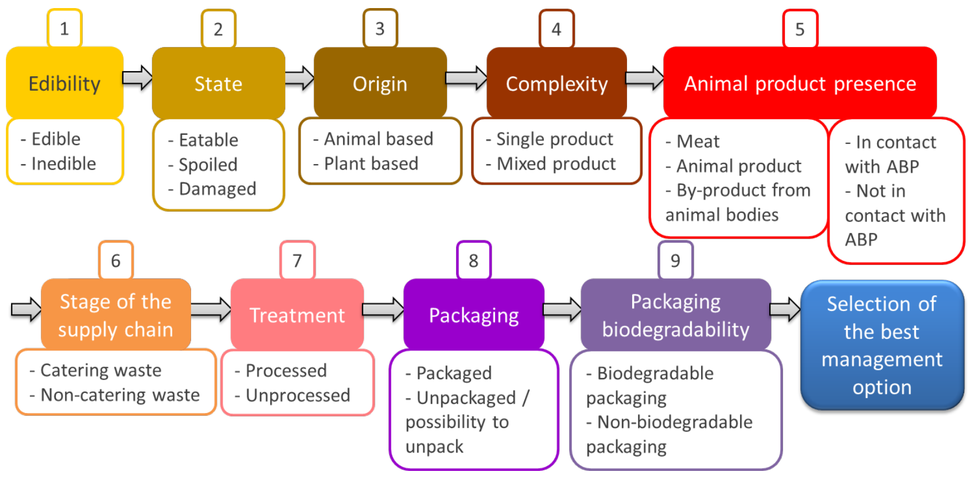
2. QUANTIFICATION AND CATEGORISATION OF SUPPLY CHAIN FOOD WASTE

IDENTIFIED ISSUE

A homogeneous approach have not been utilised when addressing food waste. Some stages and products have not been evaluated.

PROPOSED SOLUTION

Categorise and quantify the different types of waste at the different stages of the UK food supply chain.



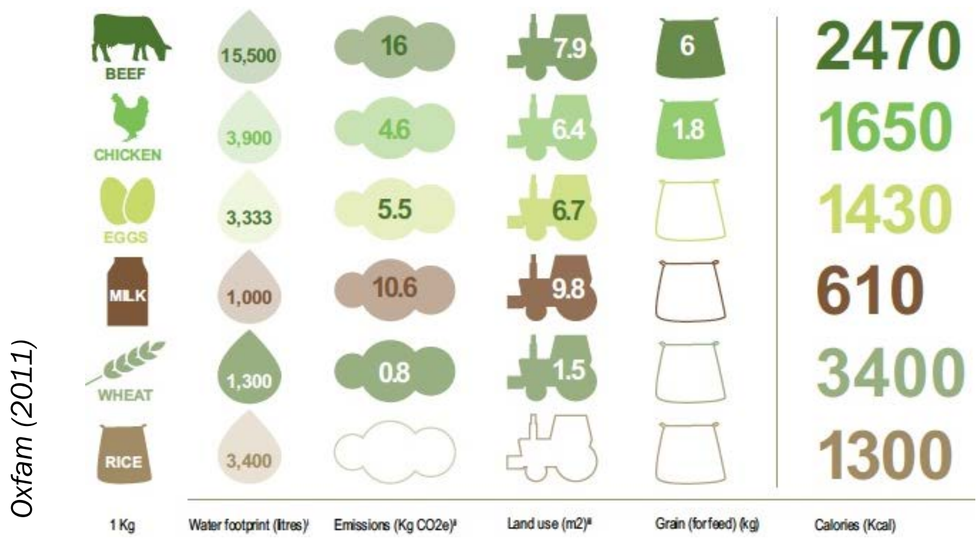
3. FOOD WASTE ENVIRONMENTAL IMPACT ASSESSMENT

IDENTIFIED ISSUE

Only a few indicators have been used when evaluating the environmental impact of food waste. The impact of different food products have not been studied.

PROPOSED SOLUTION

Evaluate the life cycle of different foods based on main indicators (carbon and water footprint) and secondary indicators (e.g. land use, photochemical oxidation, eutrophication, acidification).



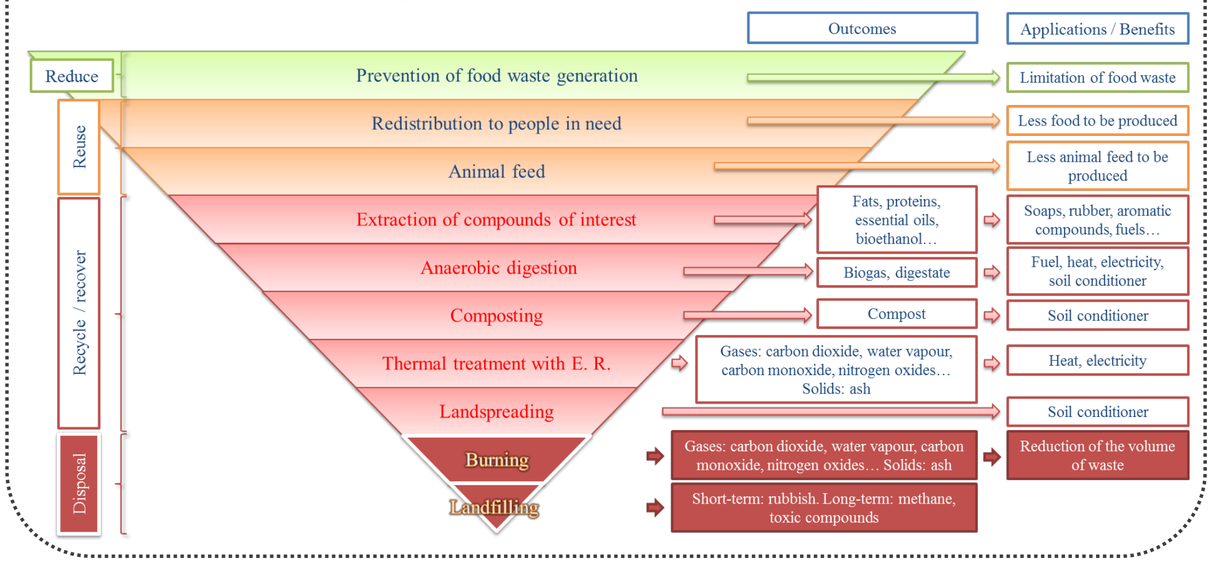
4. SELECTION OF FOOD WASTE MANAGEMENT OPTIONS

IDENTIFIED ISSUE

Only the most common methods to deal with food waste have been evaluated. Their advantages and drawbacks have not been assessed in detail.

PROPOSED SOLUTION

Identify the causes of food waste generation. Classify and tailor the different methodologies to each type of food waste. Develop a food waste decision-making support tool to optimise food waste treatments.



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