

Better Food. Better Health. Better World.

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## Shelf-Life studies

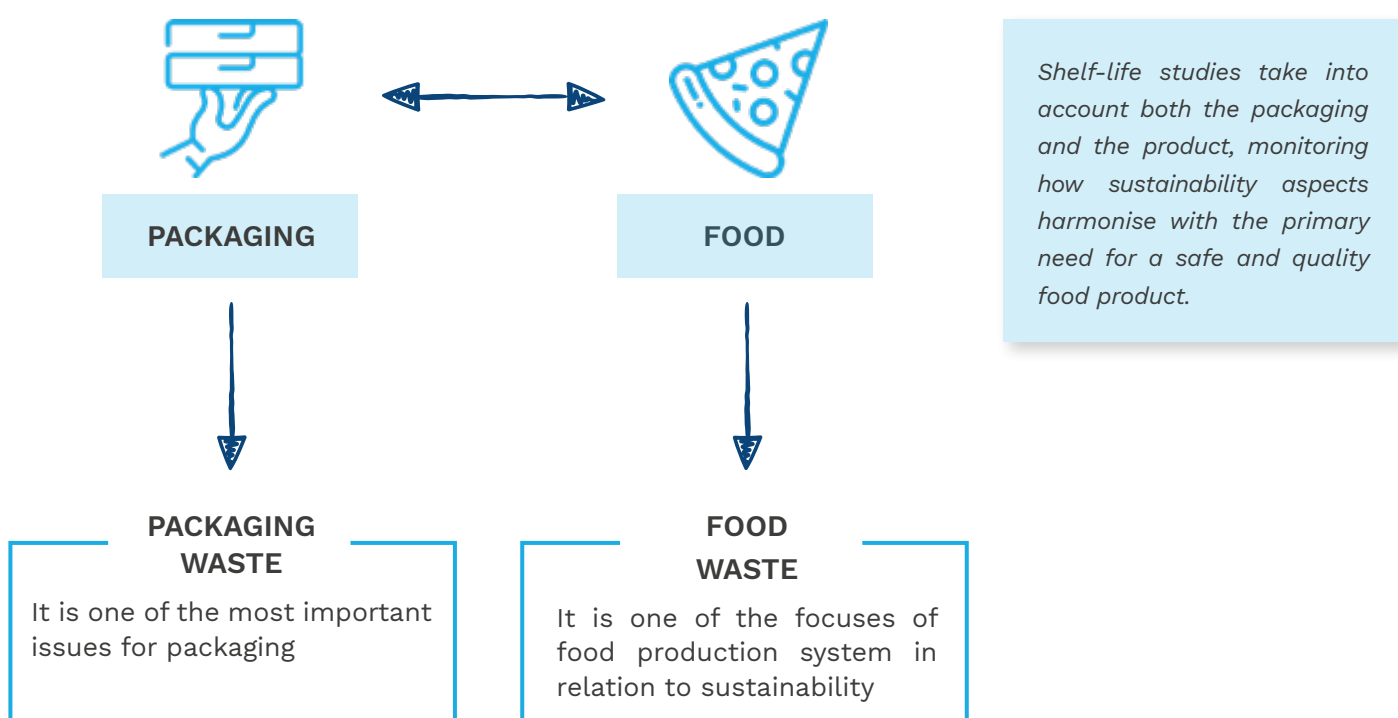
Pillar of the food system from a sustainability perspective

## The role of shelf-life in a sustainable food system

Food companies feel responsible when placing products on the market that, as far as possible, have a reduced **environmental impact at the various stages of their life**, from production to waste. Certain legislative obligations, particularly with regard to packaging and disposable products, encourage them to make different choices in terms of materials, while guaranteeing product safety and quality.

From this point of view, shelf-life studies are an essential step not only **in assessing the ageing of a product and its expiry date**, but also as a:

- method for assessing the **suitability of new packaging**
- verification of the «food protection» role when using **new materials, monomaterials or reducing the weight of the packaging**
- assessment of the role of packaging in **combating food waste**



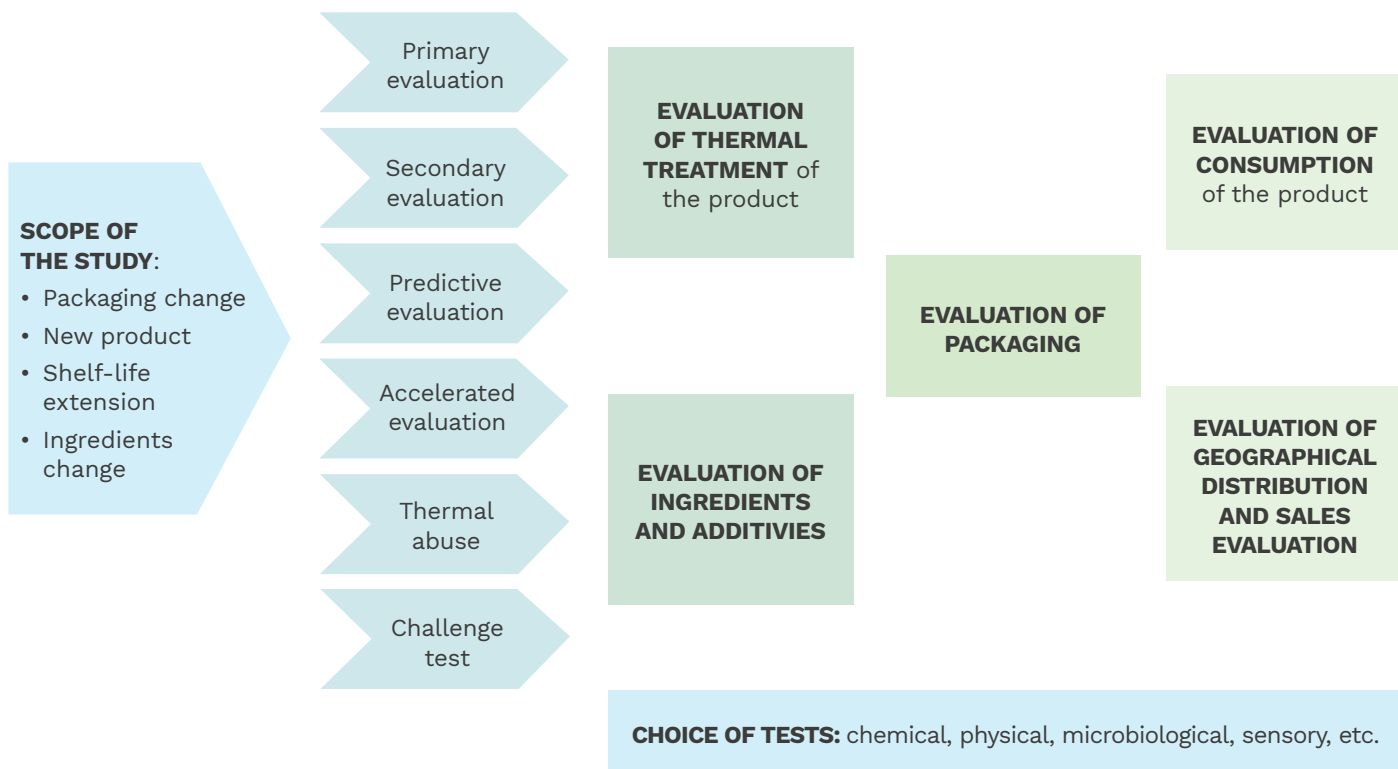
## Designing a shelf-life study

The shelf-life defines how long a food product will retain its quality parameters under normal or reasonably foreseeable conditions of storage and use.

This determination is the responsibility of food business operators and is a fundamental aspect of labelling, which **must be calculated as accurately as possible**. Overstating could conduct to **image damage**, while understatement **could contribute to food waste**.

## The service of Mérieux NutriSciences

The design of a shelf-life study is specific to each product. Thanks to a working group dedicated to this subject, Mérieux NutriSciences and the multidisciplinary expertise of its Science Center will guide you in the choice of the tests best suited to your needs.



## Focus



### New packaging and product quality

New sustainability targets have led to **packaging made of innovative, or thinner materials, or monomaterials**: differences in permeability or moisture content can affect the product and change its shelf-life. The functional barrier to contaminants and suitability for food contact has to be tested.



### Fighting food waste

Correct marking of the expiry date **assures consumers of the quality of products and combats food waste**: in the case of smart packaging or other solutions designed to extend the life of products, the correct shelf-life assessment reduces waste!



### Accelerated studies

In these studies, food is placed in storage conditions (e.g. light, temperature, humidity) that **accelerate chemical reactions that would normally take longer**. It is based on scientific data and the shelf life is calculated based on projections that can be validated in real time or compared with historical data from known products.



### Secondary shelf-life

Just as important as primary shelf-life for combating food waste in the home, it indicates how long a product is **still usable after the package has been opened**. In manufacturing, this study is useful for the storage and management of **raw materials that may have a different secondary shelf life**.

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**Mérieux NutriSciences**

Via Fratta 25, 31023 Resana (TV), Italy

Ph. +39 0423 7177

E-mail: [shelflife@mxns.com](mailto:shelflife@mxns.com)

[www.merieuxnutrisciences.com/eu](http://www.merieuxnutrisciences.com/eu)



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