



PENNY review packaging solutions which could reduce food waste at home

Overview

The need

Using the right packaging for perishable food products can significantly extend a product's shelf life. In combination, studies have shown that smaller packaged portions can contribute to consumers buying the quantity of product that best suits their needs.

Therefore, it is expected that optimising the packaging of perishable food products could lead to an overall reduction in household food waste.

The solution

PENNY wanted to assist consumers with new packaging solutions to reduce food waste at home. PENNY wanted to find packaging solutions that are more environmentally friendly, not too costly and reduce plastic waste.

The CSCP and WRAP examined if there were any packaging solutions that fulfil these criteria.

The benefit

The scoping exercise revealed interesting insights into potential packaging solutions, but unfortunately could not be brought into practice as the solutions were not ready for the mass market.

Review of packaging solutions provides some insights into how PENNY staff can further assist customers in their efforts' towards more sustainable consumption

PENNY is one of the leading discounters in Europe. In Germany, 27,000 employees in around 2,180 stores generate a turnover of 7.4 billion euros. The discounter belongs to the Cologne-based REWE Group [1].

Background

PENNY is very concerned about the conscious handling of food and its packaging. The organisation works to reduce the amount of food waste produced in households by providing information on their website on the best ways to store several different food products [2]. PENNY recognise that by storing food products correctly consumers could significantly increase the shelf life of their food.

In combination with appropriate storage, improving packaging design can also increase the shelf life of perishable food products; as well as providing consumers with the opportunity to purchase and use the quantity of product that best suits their needs. Both characteristics are expected to reduce the amount of household food waste produced [3].

After work with REFRESH on an employee engagement training project relating to food waste, PENNY was keen to explore further opportunities to help its customers reduce food waste in their homes through implementing packaging changes. Their vision was to initiate pilot projects on re-sealable packaging and packaging that prolongs shelf-life.



There were very interesting discussions and creative packaging solutions identified for both selected product groups. Unfortunately, they were not yet suitable for the mass market. The topic is still an extremely relevant one for PENNY.”

Mirka Stark, Senior Project Manager for Sustainability at the REWE Group

PENNY was particularly looking for packaging solutions that:

1. offer the customer added value by increasing shelf life
2. allow customers to use smaller portions without changing product volume (e.g. resealable packaging)
3. cause less plastic waste; and
4. represent a more sustainable solution than existing packaging.

What was the solution?

PENNY, in collaboration with REFRESH, the Collaborating Centre on Sustainable Consumption and Production (CSCP) and the Waste and Resources Action Programme (WRAP), designed a series of activities and identified key objectives.

- 1) Conduct a scoping exercise to:
 - Identify best practices and inspiration from the market
 - Develop (scientifically- and experience-based) suggestions for relevant product groups to focus on
 - Provide background on consumer challenges in the context of packaging and food waste and its relevance to new/other packaging solutions
- 2) Identify options for changes by analysing pack audits
- 3) Organise a workshop with relevant category managers and/or buyers to discuss:
 - economic, environmental and social impact (e.g. ease/cost to manufacture, marketing viewpoint of consumer messaging) and likelihood of success of various packaging options for selected products
 - the impact of changes on different functions and the likelihood of success
 - recommendations for packaging changes to help PENNY consumers reduce food waste.



Implementation

In late 2017-early 2018, the CSCP, with the support of its UK REFRESH partner WRAP, conducted the initial scoping exercise for PENNY.

One focus area of the analysis was how changes to packaging could contribute to the reduction of food waste in households. PENNY also identified re-sealable packaging for bread or salad bags as an area of interest for the scoping study. These products were chosen as PENNY identified them as the products with the highest potential for change; innovative packaging solutions for products such as meat, sausage and cheese already exist across PENNY stores.

PENNY also specified that the products analysed in the scoping activity:

- Contribute to the reduction of food waste in households (i.e. not specifically focused on increasing shelf life)
- Are alternatives to plastic
- Can be resealed; and
- Are economically competitive

Overview of potential solutions

	Contribution to the reduction of food waste at home	Alternative to plastic	Reclosability	Cost details
Active packaging				
Modified Atmosphere (MAP)				> 1c
Breathable microperforated package				> 1c
Oxygen-scavengers				> 1c
Moisture regulating materials				> 1c
Ethylene Absorber				> 1c
Antimicrobial surface coatings				
Preportioned packaging				
Flexible packaging , e.g. Zip resealing				
Ready for sale packaging				

Figure 1: Overview of some considered potential packaging solutions and their fit to the up-front identified project criteria, e.g. applicability to bread and lettuce, reduction of food waste at home, alternative to plastic, reclosability, cost.



Outcomes

The scoping exercise revealed that a solution which simultaneously reduces food waste, avoids plastic and is less cost-intensive does not currently exist. Whilst some packaging solutions have the potential to reduce consumer food waste, many of these are innovative solutions that are not yet being used in the mass market. As a result, many innovative packaging options are likely to be more cost-intensive than existing solutions.

The analysis revealed that whilst reusable packaging is less cost-intensive and reduces plastic waste, product life is not necessarily extended. However, reusable packaging was seen as an opportunity to strengthen consumer communication.

The project team suggested as an option to test each packaging solution separately among consumers (e.g. with focus groups) to ascertain the impact of each packaging solution on household food waste. One key objective identified was to hold a workshop with buyers and relevant category managers. It was recommended that if such a workshop were to be held, the involvement of an external expert would provide meaningful exchange about possible solutions and selected product categories.

Thoughts for the future

The scoping exercise revealed that under the pre-defined criteria, there was unfortunately insufficient material to conduct activities 2 and 3 outlined at the start of this pilot project ("What was the solution" section above). As a result, the CSCP and PENNY decided together to park this project.

PENNY is committed to supporting its customers to reduce food waste at home and it is anticipated that this concept could be revisited.

Although not all project activities could be conducted, one success of the pilot project was that it kept packaging issues on the agenda and showed all participants of the REFRESH Steering Committee that it is a very important topic. The German REFRESH coordinator, CSCP, is confident that the research results could be used for a future food waste and packaging project.

References

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3. OVAM. (2015). Food loss and packaging. Retrieved from <https://www.ovam.be/sites/default/files/atoms/files/2015-Report-OVAM-Food-loss-and-packaging-DEF.pdf>