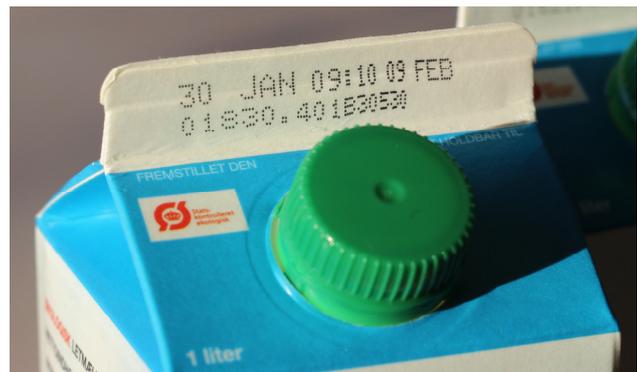




COnsumers in a **SUS**tainable food supply chain:
understanding barriers and facilitators for acceptance of suboptimal foods

COSUS project presenting first results: an overview of consumers and food waste

The COSUS project, a European collaboration project with researchers from five countries (six partner institutions in Norway, Sweden, Denmark, the Netherlands and Germany), has finalised its first stage of research. COSUS runs from June 2014 to May 2017 and is a SUSFOOD ERA-net research project that stands for 'Consumers in a sustainable food supply chain'. It focuses on suboptimal foods and the consumer's role in causing or reducing food waste. As a first step, interviews with acknowledged experts from academia, public institutions and non-governmental organisations have been conducted alongside with a review of the existing research on food waste at the consumer level and in the consumer-retailer interaction, focusing on suboptimal food in specific. The results highlight the factors causing consumer-related food waste as well as the potential actions to reduce food waste. The findings will serve as a starting point for subsequent consumer research and experiments that the COSUS project team will conduct in the coming years. Jessica Aschemann-Witzel, Associate Professor at the MAPP centre at Aarhus University, explains the results on behalf of the COSUS project team.



How do we define 'suboptimal' food?

We define 'suboptimal' foods as foods that consumer perceive as relatively undesirable as compared to otherwise similar foods because they either 1) are close to, at or beyond the best-before date, or 2) deviate (visually or in other sensory perception) from what is regarded as optimal (usually equal to what is perceived as 'normal'). This can be in the 'buy/don't buy' choice situation in the store or in the 'consume/don't consume' choice situation in the household. These two types of 'suboptimal' foods are very often wasted even if they are edible.

What are the major factors causing consumer-level food waste?

Based on the literature review and experts statements, we conclude that the household composition in terms of age and number of household members appears to play a major role in determining to what extent food is wasted. Even more important, though, are the following factors:

- The level of consumers' motivation to avoid food waste for ethical reasons. These are for example concerns about the environmental impact, unfairness of wasting food in the light of hunger in other regions of the world, or scruples over wasting food rooted in values or religious beliefs.
- The extent to which consumers prioritise goals that might clash with the everyday handling of food in the household. For example, trading off avoidance of food wastage with health or safety concerns, or with convenience and household members liking or disliking of certain foods and meals.
- The ways in which consumers organise their food provision and perceive food and meal preparation. For example, consumers differ in the capability to efficiently manage purchase, storage, and preparation of foods (e.g. using shopping lists, integrating leftovers in subsequent meals). This factor also includes how consumers perceive the whole process, such as whether they take pride in being 'thrifty' or enjoy the creativity in dealing with leftovers.

However, consumers' motivations, priorities, capabilities and perceptions are of course heavily influenced by their surroundings. Here, the following factors appear relevant:

- The immediate context in which food is chosen, such as the availability of foods in stores and the way foods are marketed and presented with regard to packaging, pricing and communication.
- Social influences on food choice and food handling decisions, for example culture or family-specific habits determining which parts or remains are edible or not, and social norms on appropriate food and eating-related behaviour.
- The overall macro-environmental context, such as food safety or date labelling regulation, technological developments in food processing, packaging or storage, and the economic situation and general trend in terms of consumer culture.

What do we conclude should be done to reduce consumer-level food waste?

Based on the literature review and the expert interviews, we suggest several potential areas for action.

On the consumer side, it appears that more activities to improve consumer knowledge about date labelling on foods would be especially effective. Moreover, attempts to increase consumers' willingness to accept 'suboptimal' foods and to change social norms that are relevant to food waste are interesting areas for action. Finally, ideas to improve consumers' food handling capabilities in the household and the way consumers solve conflicts between different goals are promising directions.

In the interaction between consumers and the food sector, we suggest that producers or retailers increase their efforts to communicate the role and function of packaging in avoiding food waste. They can review or further develop their pricing strategies for 'suboptimal' foods (e.g., reduced prices for suboptimal foods, but also other approaches). Moreover, expanding cooperation with alternative retail formats for foods that cannot be sold is promising. We also argue that through their communication to customers, retailers can contribute to reducing consumer-related food waste: By appealing to various motives for avoiding food waste, consumers can become convinced of both the altruistic ethical and the self-centred economic arguments. This will hopefully motivate consumers to persist with food choices and behaviours that avoid food waste in the long run.

What has especially caught our attention in this research step?

Food waste is an issue closely connected to our everyday life of which food and eating is a central part. Therefore it is very complicated but yet simple and basic. There are many conflicting factors that impact the decision not to buy or not to consume a certain food, which then ends up wasted. Consumers are not highly motivated to change this situation given the food does not cost us that much in the first place. In the end, though, it simply boils down to whether or not we, as individuals, decide to throw the food into the bin or not.

With the understanding that food is a vital source of life, food waste strikes many people as just-not-right. It is good news to find that consumers disapprove of food wastage. That also explains why public interest in food waste has remained high ever since several very active campaigners drew attention to it. This is a good entry point for consumers to become interested in the overall sustainability of food production and consumption, of which food waste is just one among various issues to tackle.

Furthermore, food waste is a topic where consumers themselves can make many small but successful adjustments. It is especially interesting to find that these actions do not need to be perceived as a burden, but that consumers could also enjoy their new self as 'thrifty, smart shoppers' or 'creative leftover cooking champions' – especially if this is supported by favourable social norms and respective consumer food trends.

What are the next steps in the project?

In the coming months, taking departure from what we know so far from the literature and experts, we will carry out more in-depth research with consumer focus group discussions on 'suboptimal' foods, and conduct a cross-country consumer survey. We are also analysing especially successful activities against food waste in form of case studies.

For more information on the project, please see <http://cosus.nmbu.no/>.

The project is coordinated by Dr. Marije Oostindjer from the Norwegian University of Life Sciences and conducted together with the partners from Nofima/Norway, the Technical University of Dresden, Germany, the Swedish Institute for Food and Biotechnology (SIK) in collaboration with the Swedish University of Agricultural Sciences (SLU), Wageningen University (WUR), and Aarhus University (AU), Denmark. It is funded within the ERA-Net SUSFOOD, see <https://www.susfood-era.net/>.

For more information on the research described above, please contact Jessica Aschemann-Witzel at the MAPP - Centre for Research on Customer Relations in the Food Sector, Aarhus University, via <http://badm.au.dk/mapp/> or jeaw@badm.au.dk.



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