

Round Table Product losses and packaging, an ample balance

It is important that companies take ownership of the product loss issue; Leadership and vision within a company will contribute to less product loss and more circular packaging. In addition, cooperation by the chain parties is a must too. This leads to added value to 'the overview of the chain', by sharing information. A particular dilemma is the sharing of costs and benefits throughout the chain.



These are two of the seven conclusions made during a Round Table discussion, organized by the Netherlands Institute for Sustainable Packaging (in Dutch: Kennisinstituut Duurzaam Verpakken, KIDV) about product losses and therewith the connection to circular packaging.

Conclusions

Besides ownership and corporation, as said above, variety of packaging can be a solution to product loss as well, by varying and optimizing, both size and amount of product per packaging. Currently, averages and standards are used for portioning of products per packaging. Are these the right sizes and amounts, tailored to the actual needs of users? Another possible solution is applying more modularity and flexibility in production plants. For packaging lines this means easily interchangeable components to adjust the line for different kinds of packaging. New solutions can arise with local production. This can lead to innovative packaging solutions. Besides, e-commerce, providing a new way of selling products will result in new ways of packaging. Both new solutions can complement each other. To address both the product loss issues and the idea of circular packaging, planning is important. Planning at every step, both in production (such as lead time) and with consumers, through better alignment with actual needs and use. New technology, including the use of data, offers perspectives. Awareness and communication are important tools for both businesses and consumers.

Pitches and discussion

The conclusions are based on pitches of experts and discussions with the audience. Several experts from abroad were invited to discuss product losses and in what way packaging can contribute to reduce product losses and still fits in the Circular Economy. An audience from different chain parties attended the Round Table and participated in the discussion. Managing director of KIDV Hester Klein Lankhorst chaired the meeting. The invited experts were:

- Peter Singleton - Missenden consulting, formerly Principal Scientist/Engineer, Global Packaging development Gillette/P&G
- Jane Bickerstaffe - director of INCPEN, the Industry Council for research on Packaging & the Environment
- Roland ten Klooster - Plato product consultants and Professor and Chairman Packaging Design and Management, University of Twente
- Annika Olsson - Professor Packaging Logistics, Lund University
- Helén Williams – senior researcher, Karlstad University, Sweden
- Katarina Nilsson - senior researcher, Technical Research Institute of Sweden, Food and Bioscience



Singleton started with pitching. He also pitched on behalf of Jane Bickerstaffe, as she could not attend the meeting due to circumstances. Singleton said that packaging is not the product itself, but a way to fulfil multiple purposes towards packed products, like protecting and transporting. During the development of packaging, many actors are to be taken into account to meet the requirements for the product-packaging combination. When meeting these requirements, and designing the most optimal packaging, the packaging is as sustainable as it can be. In addition Singleton said that all packaging materials

contribute to sustainability. The sustainability of the packaging in combination with the product needs to meet the requirements of the product. The essential is: The environmental impact of a product is (on average) ten times bigger than the impact of a packaging. You have to make sure your product is protected by the packaging to avoid product loss.

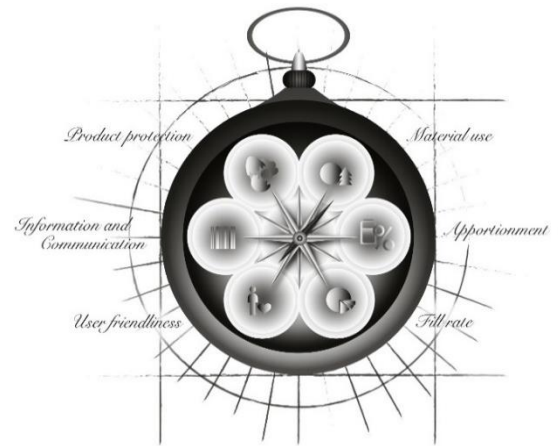
Ten Klooster thereafter pitched that the biggest losses can be found in the food sector. Per household food is wasted that can be reduced, but it is unclear how much it is because of lack of reliable research. Not only consumers are responsible for product losses, other chain parties are too. But not all chain parties take their responsibility. In their way of working, they take into account (financially) a part of the product will be wasted due to damage or due to other reasons. These parties accept product losses, while they can prevent it and therewith can achieve cost savings. Besides, if a producer redesigns a packaging taking into account the requirements for the product and the price, it still needs to fit on the existing production- and packaging line. These machines are big investments for producers. That means they will not easily be replaced for a new packaging.





During her pitch, Olsson added that packaging systems are about multiple layers of packaging; primary, secondary and tertiary packaging. Each layer correspondence with different requirements of the product. And each layer is produced and processed by different chain parties. Therefore, Olsson challenges all stakeholders to work together for a circular economy. To make these different parties work together, Olsson provides a compass, (presented in the forthcoming book, “Managing Packaging Design for Sustainable development – a compass for strategic directions”) with multiple

points the parties need to take into account together, to avoid product losses. For example, correct information and communication on the packaging, and apportionment are mentioned in the compass.



Williams showed some results of research on sustainable packaging. When people talk about sustainability, it is often forgotten that the type of packaging for a product has a big impact on the sustainability of the product-packaging combination. She demonstrated this with two different packaging for minced meat. At first glance it looks like the tube for minced meat is more sustainable, because it needs less packaging. Williams pitched that more factors have influence on the sustainability, such as remains of product in the packaging after emptying and preservation.



The given fact that the type of packaging has influence on the remaining product, ergo product loss, has to be taken into account when (re)designing packaging.

<i>Attribute</i>	<i>Minced meat – Tube</i>	<i>Minced meat- Tray</i>
<i>Mass</i>	6 g	21 g
<i>Easy to empty</i>	No, 5-10g meat sticks	Yes
<i>Easy to clean</i>	Very difficult. The meat-disgusting	Yes, just rinsing
<i>Easy to separate into different fractions</i>	No. The metal clips	Not needed – only plastics
<i>Easy to fold</i>	Yes	No, takes some space
<i>Information on how to sort</i>	Yes	Yes
<i>Preserve content</i>	16 days from packaging date to expiry date.	9 days from packaging date to expiry date.



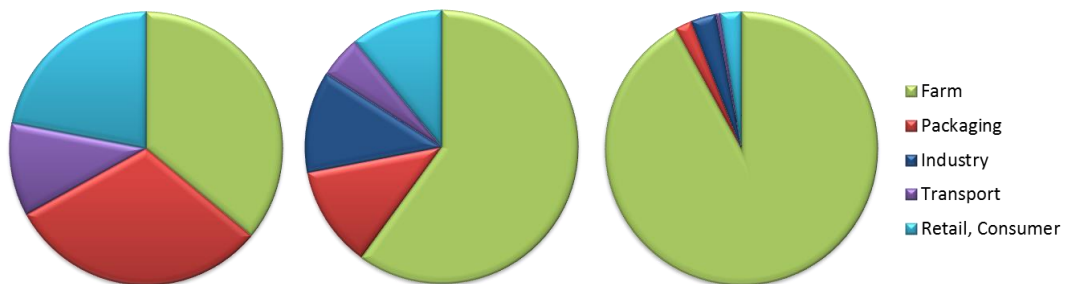


Nilsson ended the pitching round with her point of view as researcher in food production. Environmental impact of the packaging is just a part of the environmental impact of the whole food product–packaging combination. It depends what kind of food is packed to know the share of the environmental impact of the packaging compared to total environmental impact of a packaging- product combination. In the following overview three food products are compared to show what the share of packaging is in environmental impact. The primary production of food is related to the major part of environmental impact therefore an optimal function of the packaging, to protect and prolong shelf life, is essential for minimizing both food waste and environmental impact from food.

Lettuce (0,4 kg CO₂e/kg prod.)

Bread (0,8 kg CO₂e/kg prod.)

Pork (5.5 kg CO₂e/kg prod.)



Nilsson agreed with Olsson; chain parties need to work together. Especially in planning and improving the processes. The chain parties should align the processes to reduce product losses.

The Round Table has contributed to the TIFN-KIDV scientific Research Program (2014-2018). New ideas have come up for upcoming research programs. Moreover, a practical result will be the cooperation in a recently founded International working committee on product losses and packaging.

KIDV wants to thank all participants of the Round Table event.

Click [here](#) for the presentation.