

# Can Save Food Packaging Design minimise food waste?

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The AIP offers up an array of ideas on how packaging designers can help reduce food waste.



**D**id you know that 34 per cent (2.5 million tonnes) of all food wasted occurs in the household, followed closely by 31 per cent (2.3 million tonnes) in primary production? In economic terms, food waste in Australia has become a \$20 billion problem that sees each person waste on average 298 kilograms of food a year.

While the primary function of packaging is to protect, contain, preserve and transport a product, the function of intuitive Save Food Packaging Design to minimise food waste, is only now being discussed.

As a core participant of the Fight Food Waste Cooperative Research Centre, the Australian Institute of Packaging (AIP) has been working on guidelines that will help packaging technologists to design Save Food Packaging to minimise food waste from paddock to plate. This is by using innovative and intuitive design features that can contain and protect, preserve, extend shelf life, and can be opened and resealed easily, provide consumer convenience and portion control – while also meeting global sustainable packaging targets.

## The intuitive ways that packaging can save food include:

- Design to contain and protect

the product from spoilage and damage from the manufacturer's warehouse and the various stages of distribution. This design aspect needs to cover primary, secondary and tertiary applications and how it is transported to the consumer. Considerations need to include palletisation and stabilisation, transport packaging and load utilisation, tamper evidence, shocks, vibrations, temperature, moisture, infestation, and chemical contamination.

**Tip:** As a part of your packaging design ensure simulation testing is undertaken to better optimise the carton design with regard to physical-chemical protection and mechanical protection.

- Design to preserve, enhance product appeal and extend shelf life. Considerations need to include improved barrier packaging and processing, retention of nutrition, skin and MAP packaging, as well as active and intelligent packaging.

**Tip:** Improve your use of active and intelligent packaging (temperature, O<sub>2</sub> and CO<sub>2</sub> sensors) to assist retailers and consumers understanding of shelf life issues with the packed product. There are "Smart label sensors" now being developed to assist the detecting of spoiled foods.

- Design to provide convenience to not waste food in handling.

Considerations need to include portion control, ease of opening, re-closing, dispensing and inclusive design. Designing packaging that offers an effective resealable pack, to protect the product from spoilage after multi-use occasions (a necessary feature for flexible packaging) is just one design feature that can be effective.

**Tip:** Review portion control and changing the size of packs. Understanding your consumer's requirements and providing smaller sealed portion packs. i.e. 500gm meat packs that could be provided in dual 250gm sealed packs.

- Design to promote and communicate to consumers how to handle, store, prepare and reuse food products. Consideration must include usage and storage instructions, date labelling – including Best Before, Use By and Good After and on-pack communication. On-pack communication can include everything from why the product is packaged a certain way to extend shelf life, resealable functionality, any intuitive design features, all the way through to preparation and left-over ideas.

**Tip:** Review your on-pack and off-pack communication. Provide information on pack, or using a QR code, so that consumers can access helpful information on shelf life, storage conditions and recipes for products past their Best Before coding. Information on food safety and freshness including opening, resealing, closing and dispensing could also be communicated, in addition to ideas for using or storing leftovers.

- Design to meet 2025 National Packaging and Global Sustainable Packaging Targets. Consideration must include a balanced approach to ensure that the packaging meets all necessary sustainable packaging guidelines

and true recyclability of the packaging in the country in which it is sold. Save Food Packaging Design needs to link to the Product Waste principle in Sustainable Packaging Design.

**Tip:** Increase your usage of Lifecycle Assessment Tools to better understand the role of your packaging, food production and food waste.

## Industry pilots Save Food Packaging Design

The AIP will be shortly rolling out the industry pilot phase of the Save Food Packaging CRC project, which will be a critical step in finalising the key criteria and guidelines needed for the industry. If you would like to be a part of the pilot project, please contact the AIP as everyone has a role to play.

## Once the Save Food Packaging Guidelines are finalised, the AIP would like to see:

1. The new Save Food Packaging Guidelines used as a standard for all packaging technologists and designers.
2. More companies being recognised for their Save Food Packaging innovations through the Packaging Innovation and Design (PIDA) Awards and the international WorldStar Packaging Award program.
3. More local best practice, award-winning Save Food Packaging innovations showcased across Australia and New Zealand.
4. Improved consumer education and engagement projects to change the narrative around packaging's roles in minimising food waste.

I would encourage everyone to build these guidelines into new product development processes, as simple changes to design can potentially prevent unnecessary food waste in the households. **📌**