

# Date Labels, Education, and Innovation: Engaging the Consumer Through Packaging

*Packaging, when intelligently designed and utilized, is a powerful, underutilized tool in preventing and reducing consumer food waste.*

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ŌTĀKOU WHAKAIHU WAKA





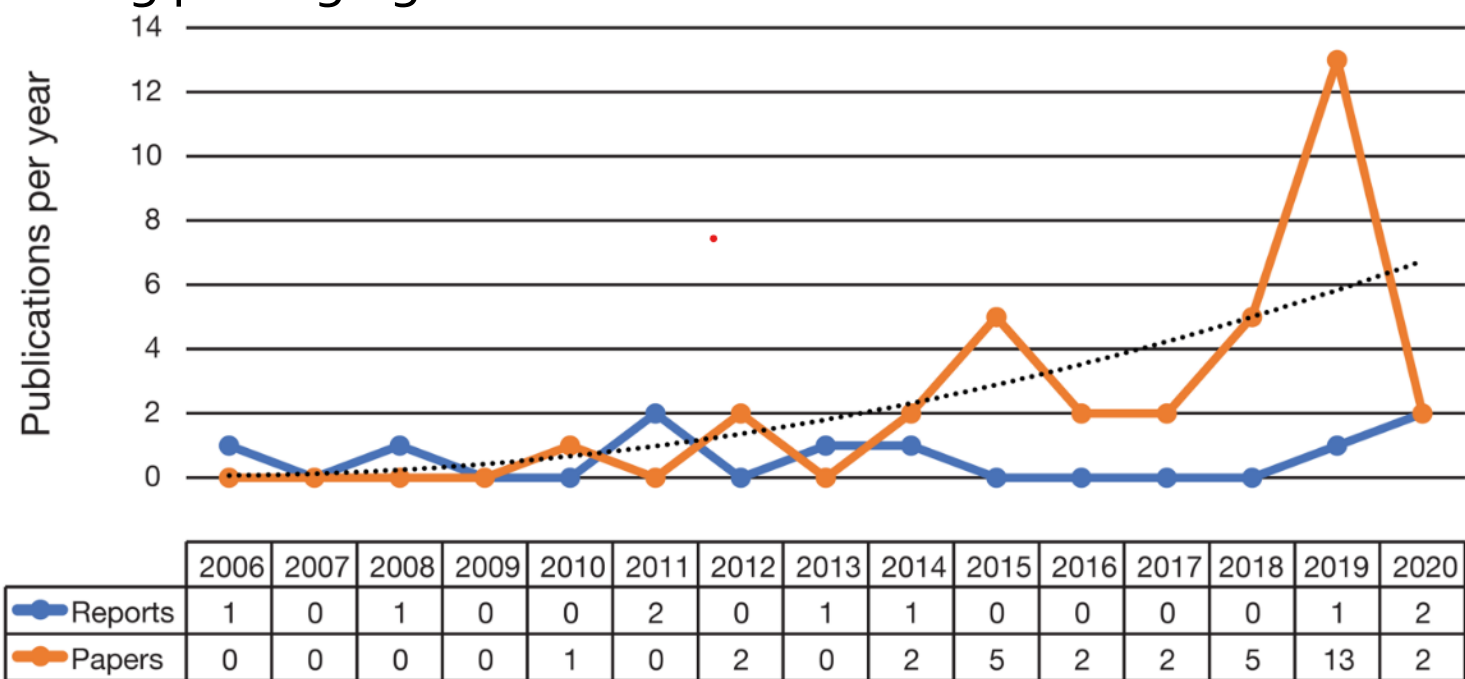
**MAYA'S  
SMART  
KITCHEN: NO  
MORE  
WASTED  
MILK!**

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# 1. Packaging & Household Food Waste (FW)

- A significant % of household FW is directly or indirectly related to packaging issues.
- There is an emerging body of consumer studies on household FW and packaging, which uncovers insights regarding packaging's connection to household FW as a driver and solution.



**FIGURE 3** Number of primary consumer studies per-year where packaging is mentioned in context of household food waste

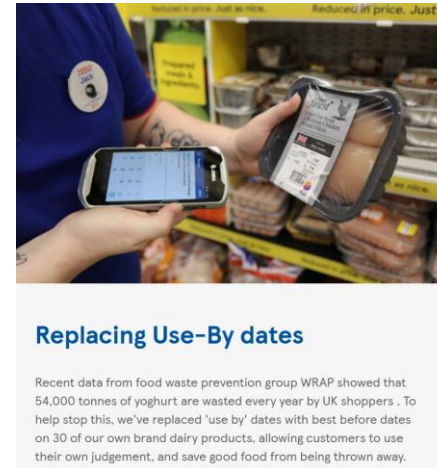
Chan, Ruby Bo Yiu. "A review of packaging-related studies in the context of household food waste: Drivers, solutions and avenues for future research." *Packaging Technology and Science* 35.1 (2022): 3-51.



## 2. Rethinking Date Labels: Clarity for Consumers



- **Standardization & Simplification:** Advocate for industry-wide adoption of clearer, more consistent labeling.



- **Direct Instruction:** Explicitly explain the difference between quality and safety dates on packaging.



### 3. Beyond the Date: Packaging as an Educational Medium

#### Moving beyond generic labels to tailored advice

- Specific Guidance Needed For:
  - i) How specific foods should be treated & how long food lasts
  - ii) Advise on correct temperature and modes of storage: Clear instructions for fridge, freezer, or passive (pantry) storage.
  - iii) Tips on how to tell if food is in good order to still eat: Emphasizing sensory cues (look, smell, taste) over strict date adherence.
  - iv) Basic hygiene and preventing spoilage from improper handling.

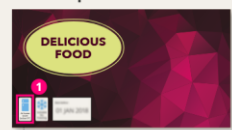


#### Visual guide: storage advice

There are many considerations when designing label layout and content. These visual guides have been produced to help illustrate examples of how the recommendations in this guidance could look on pack. These can be adapted to your organisation's style (in design, wording and layout) and to take account of other factors, such as pack size.

Category product guidance is available, and these show which labelling and design features are most effective in helping consumers reduce waste of that product type, specifically – so you can use this information when deciding how best to apply labelling and design features contained in the guidance.

##### Front of pack

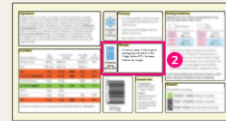


- ✓ Where possible, an icon front of pack provides a useful prompt to make it easier for consumers to see where best to store the product, at a glance
- ✓ Temperature guidance encourages consumers to check their fridge is cold enough, to help ensure their food is kept fresher for longer



- ✓ NB when 'open life' is required for food safety reasons, this is best front of pack, where possible, with the words 'Use within X days of opening.'

##### Back of pack



##### Storage

- At home, keep in the original packaging and store in the fridge, below 5°C – to keep fresher for longer



##### Storage

- Do not store in the fridge. Store in a cool, dry place away from direct sunlight and once opened reseal the bag – to keep fresher for longer

- ✓ NB when 'open life' is important for food quality reasons, this is best back of pack, where possible, with the words 'Best within X days of opening.'
- ✓ Use of icon makes it easy for consumer to find information

- ✓ For products like bread that will go stale quicker in the fridge, use the wording: 'Do not store in the fridge. Store in a cool, dry place away from direct sunlight and once opened reseal the bag – to keep fresher for longer. A cupboard or bread bin is ideal.'

## Additional Consumer Desires:

- How to repurpose and refresh fruit and vegetables.
- Thoughtful recipe ideas for leftover content.
- Indication of portion size and serves.
- Motivational messages about valuing the food.

### *Example behavioral tips and leftover recipes*



"Adding a piece of kitchen towel to the bag could help to keep your salad fresher for longer"



"Always keep bananas separate from other fruits unless you want the other fruit to ripen quickly"



"Top tip - split [bread] slices in bags in smaller quantities for convenience before freezing"



"Slices of bread can be toasted directly from the freezer or by defrosting at room temperature"



"[tomatoes] can be frozen and used in spag bol"



### *Example motivational messages*



"Juicy apples take 5 months to grow. Keep fresh in the fridge not in a fruit bowl"



"Up to 2½ months to grow, a second to squish. Treat with a little TLC in the trolley, love every leaf"



"150 days to grow is too good to throw. Get the most out of your spuds by keeping them in the dark"

# 4. Packaging Design to Reduce Waste

It's not just about what's *on* the label, but how the entire package functions as a communication tool.

**Integrate Proactive Design:** Food and beverage brands should integrate waste-reducing packaging feature requirements in *all* packaging design briefs to reduce household FW.

And be thinking about this across all functions of packaging!

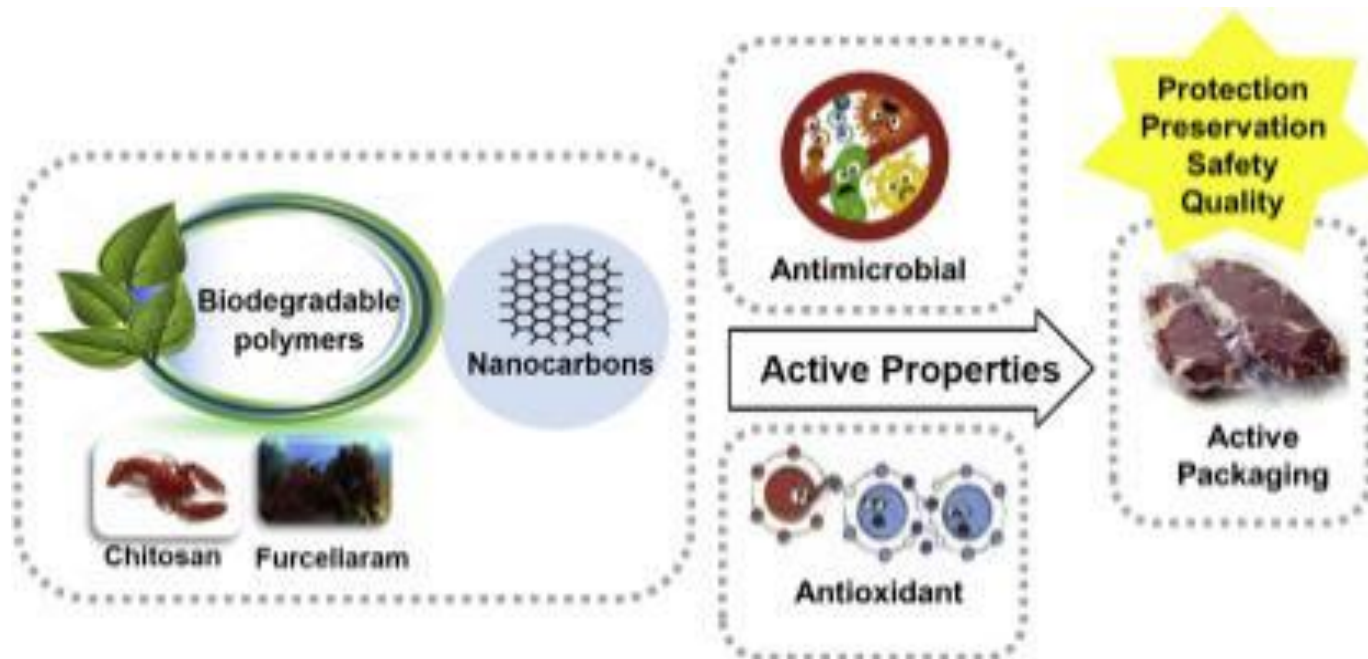






# Design For Shelf-life Extension Through Physical Protection

**Active Packaging...subsidiary constituents added to enhance the performance...**





# Design To Empower Consumers To Make Better Decisions Through Interactive Functionality & Communication

**Intelligent Packaging ...external or internal indicator to provide information about the history and/or the quality...**





# Design for Convenience and Waste Prevention in Handling

- **Right-Sizing:** Packaging for different household sizes to prevent overbuying and subsequent waste.
- **Portion Control:** Understanding consumers' requirements and providing smaller sealed portion packs (modular packaging/ multi-compartment designs).
- **Ease of Use:** Easy opening, effective re-closing mechanisms and convenient dispensing.



## 5. Challenges Of Engaging Consumers In FW Prevention Through Packaging Solutions



- A. Misperception of Packaging's Role
- B. Communication and Education Gaps
- C. Economic and Practical Considerations
- D. Trust and Transparency



# A. Misperception of Packaging's Role

## Packaging as Wasteful

- Associate less packaging with more sustainability

## Lack of Awareness of Protective Function

- Don't fully understand how packaging extends shelf life, protects food from damage, and preserves quality

## Focus on Disposal over Prevention

- Consumers are highly aware of the end-of-life of packaging (recycling, landfill), but less so about its upstream impact on FW prevention



## B. Communication and Education Gaps



- **Complex Information:** Smart packaging technologies are effective, but communicating their benefits and how to use them effectively to a broad consumer base is challenging.
- **Overcoming Greenwashing Fatigue:** Consumers are increasingly sceptical of "green" claims. If packaging boasts "food waste reduction" without clear evidence or a broader commitment to sustainability, it can be dismissed as greenwashing.

## C. Economic and Practical Considerations



- **Cost of Innovative Packaging:** Can translate to higher consumer prices. Consumers might not be willing to pay a premium for packaging that reduces FW.
- **Limited Shelf Space/Aesthetics:** Retailers and consumers have preferences for package aesthetics and size. A FW-reducing package might be larger, oddly shaped, or less visually appealing, impacting its market acceptance.

## D. Trust and Transparency



- **Date Skepticism:** Some consumers distrust date labels, either throwing food out too early or ignoring them entirely. Building trust in these indicators, especially with dynamic or "smart" labels, is crucial.
- **Brand Reputation:** A brand's overall commitment to sustainability and ethical practices will influence how consumers perceive their FW-reducing packaging solutions.



*To overcome these challenges, a multi-faceted approach is needed, combining **innovative packaging design** with clear **communication**, consumer **education** campaigns, and **collaborative efforts** across the supply chain.*

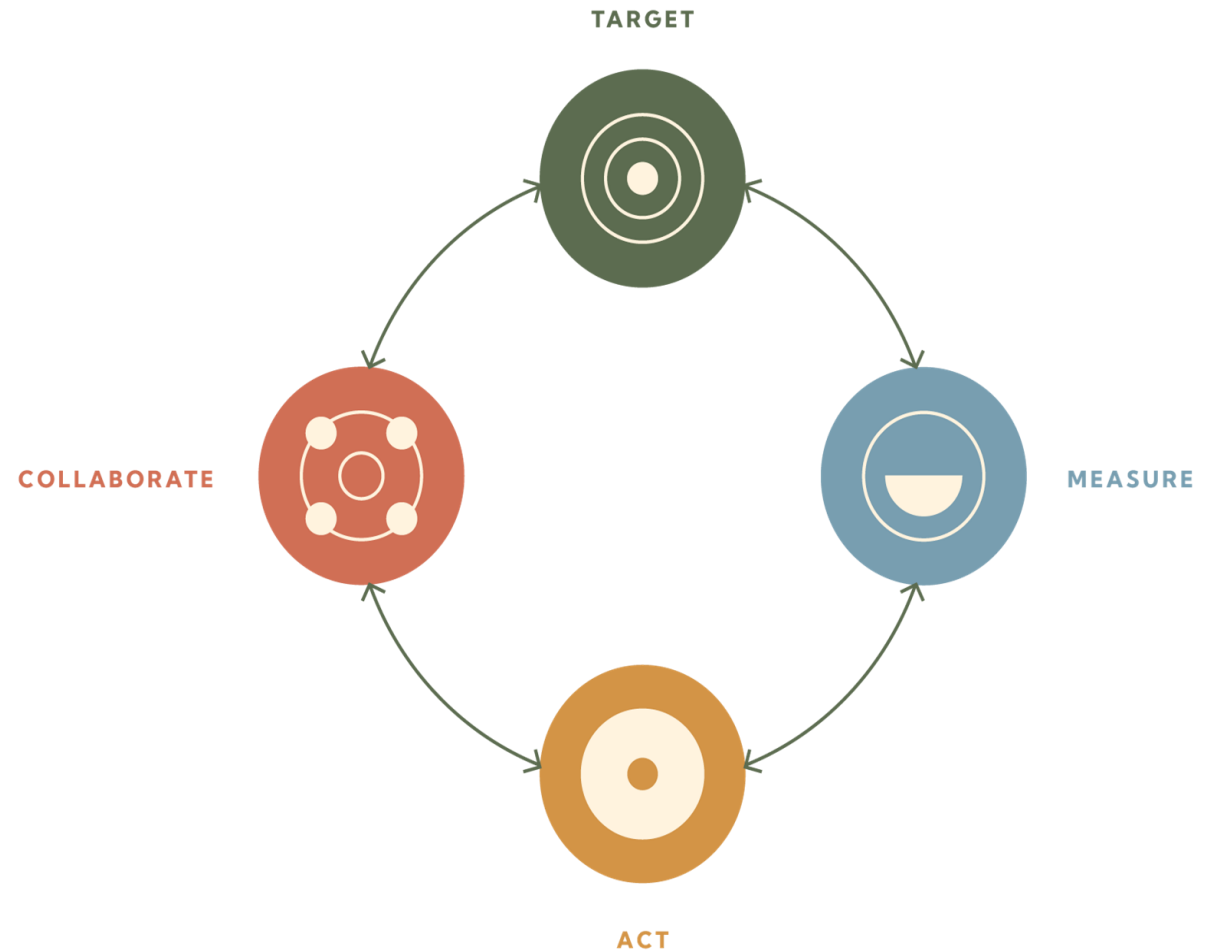


## 6. A Collaborative Journey: Engaging All Stakeholders

- **Consumers:** Provide critical insights into needs, confusion points, and desired solutions.
- **Retailers:** Facilitate in-store communication, manage inventory, and implement dynamic pricing.
- **Designers:** Create intuitive, engaging, and clear communication tools on and off packaging.
- **Policymakers:** Establish consistent regulations, incentivize innovation, and protect consumers.

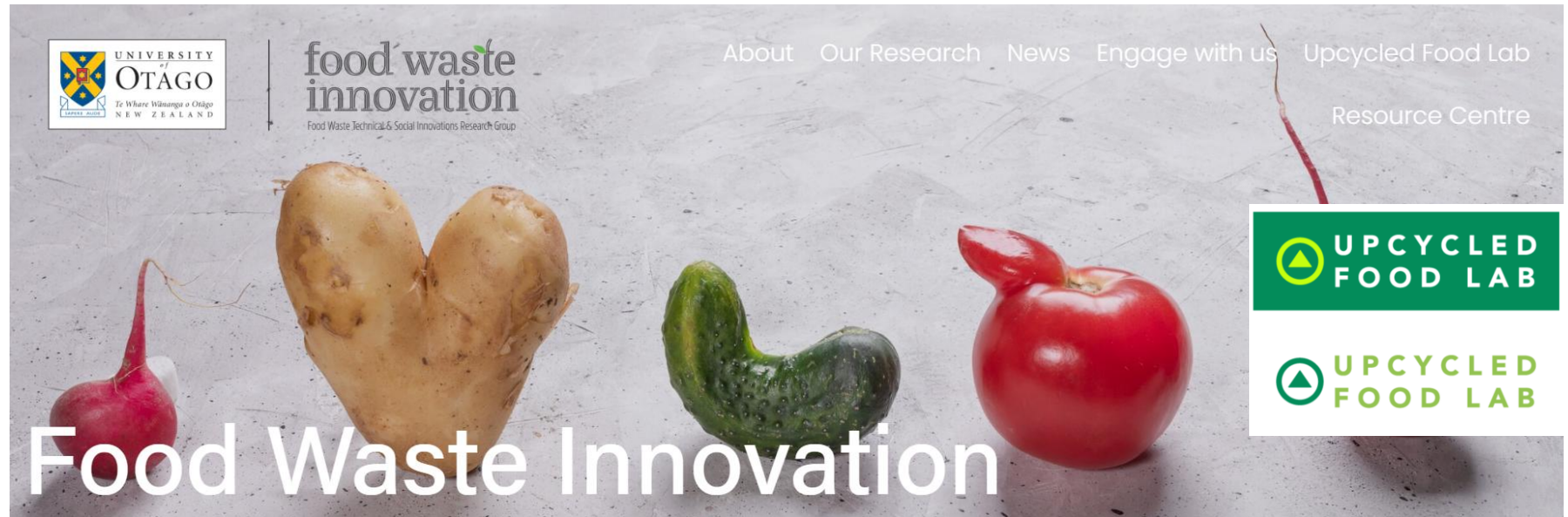
# Manufacturers

*E.g. NZ's Kai Commitment  
- a voluntary agreement*



# Academics

*E.g. NZ's  
Research  
Group*



## Packaging Technology and Science

*An International Journal*

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### A conceptual model for food industry views on the commercialisation of active and intelligent packaging

Erin Young , Miranda Miroso, Phil Bremer

First published: 12 July 2023 | <https://doi.org/10.1002/pts.2766>

Food Systems

SYSTEMATIC REVIEW  
published: 13 May 2020  
doi: 10.3389/ftsufs.2020.00063



### A Systematic Review of Consumer Perceptions of Smart Packaging Technologies for Food

Erin Young, Miranda Miroso\* and Phil Bremer

Department of Food Science, University of Otago, Dunedin, New Zealand





## 7. Conclusion: Let's "Break Bread" On A Delicious Solution: A Sustainable FW-free Food System!

Let's work together to empower consumers with knowledge and tools, leading to significant reductions in household FW.

Envision a future where packaging truly engages and educates, turning confusion into confidence and waste into resourcefulness!

