Reducing Wasted Food: How Packaging Can Help

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Sealed Air
Re-imagine™

Sealed Air: Focused on Protection

We protect what's important – helping people live healthier, eat better and ship products safely around the world

We deliver consistent, superior solutions in:

FOOD SAFETY & SECURITY

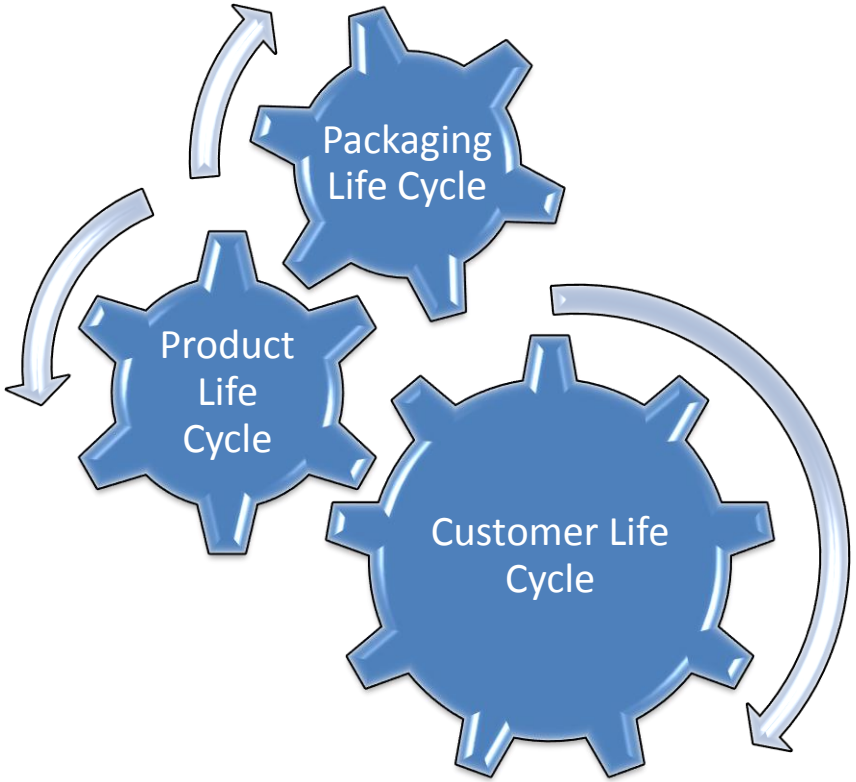
FACILITY HYGIENE

PRODUCT PROTECTION

Our customers rely on our solutions to reduce risk, improve safety, enhance efficiency and deliver sustainability

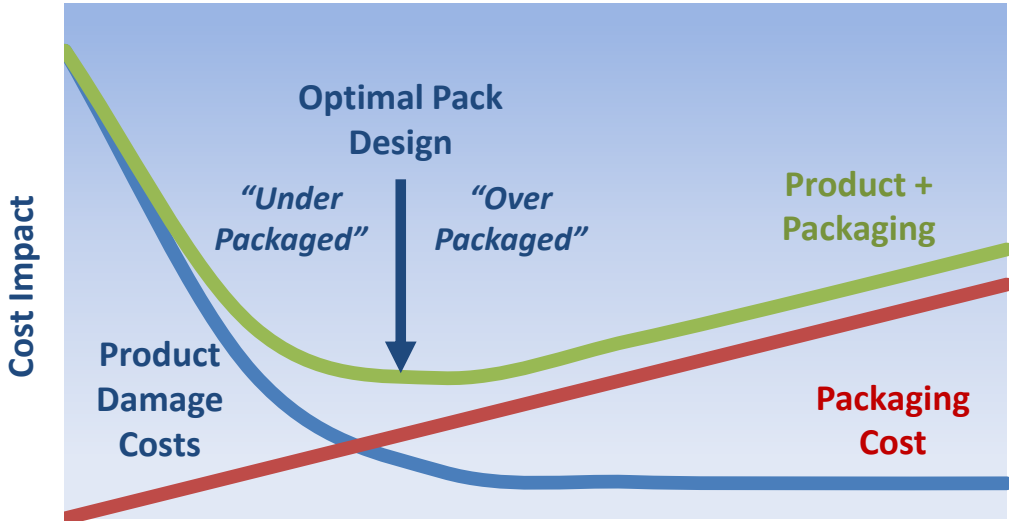
Packaging as Part of a Global Food System

- Packaging ensures products are distributed efficiently from point of packaging to point of use.
- Packaging must be optimized by considering its role for food distribution and consumer use.



Package Design for Product Protection

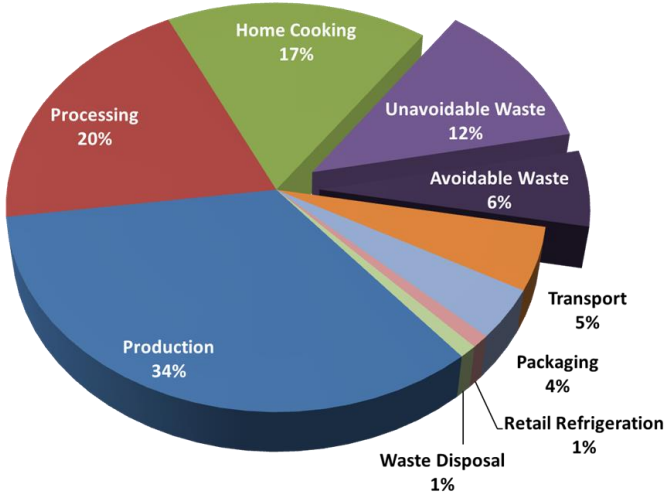
- Starts with knowledge of the product's supply chain and intended use.
- Laboratory testing and food science used to understand shelf life requirements.
- The package is designed to optimize overall performance.



Packaging Impacts in the Supply Chain

Estimates of Waste in U.S. Poultry Supply Chain

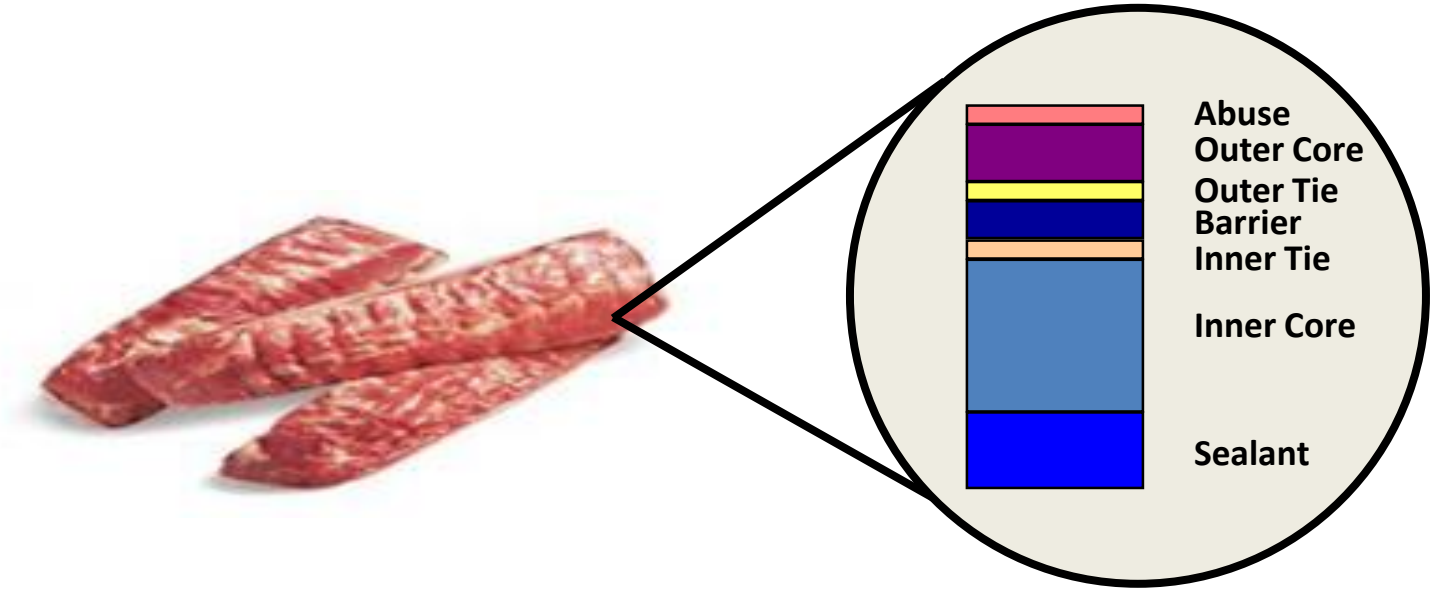
Greenhouse Gas Contributions U.S. Poultry Supply Chain



Packaging facilitates distribution of products but can also help reduce/prevent food waste

Source: AMERIPEN Value of Packaging (2013)

Design of Flexible Plastic Barrier Packaging



Multiple layers of materials selected to optimize overall performance

Films typically 1.5 – 3 mil (human hair approx 4 mil)

Packaging's Role in Shelf Life Extension

Packaging protects foods from external influences.

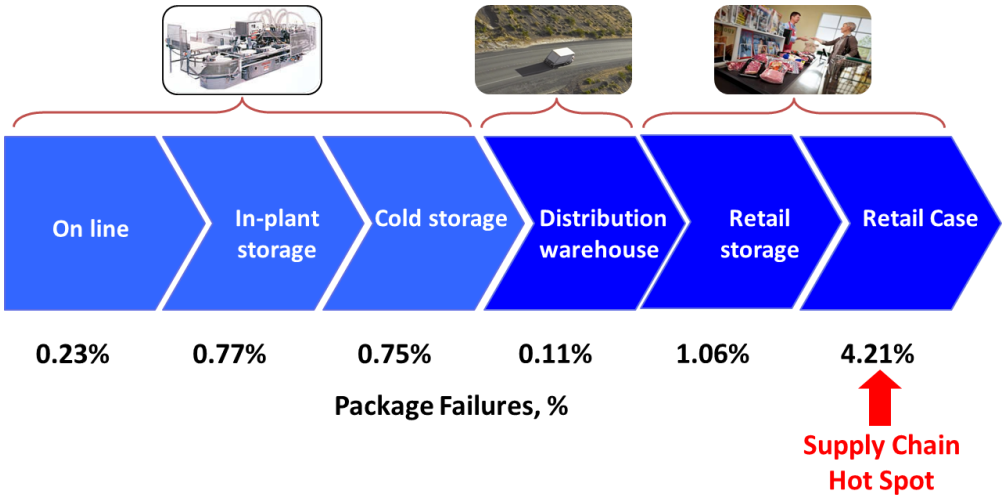
- Can extend fresh food shelf-life of many food types without use of food additives.
- Examples include vacuum packaging and modified atmosphere packaging (MAP).
- But does not change the perishable nature of food or improve poor food quality.

Example
Modified Atmosphere Packaging (MAP)

Fresh Food Category	Refrigerated Shelf Life (days)	
	Non-MAP	MAP
Lettuce	2-4	14
Fresh red meat	2-3	21
Fresh pasta	3	60
Cheese	7	180

Preventing Damage to Cooked Hams

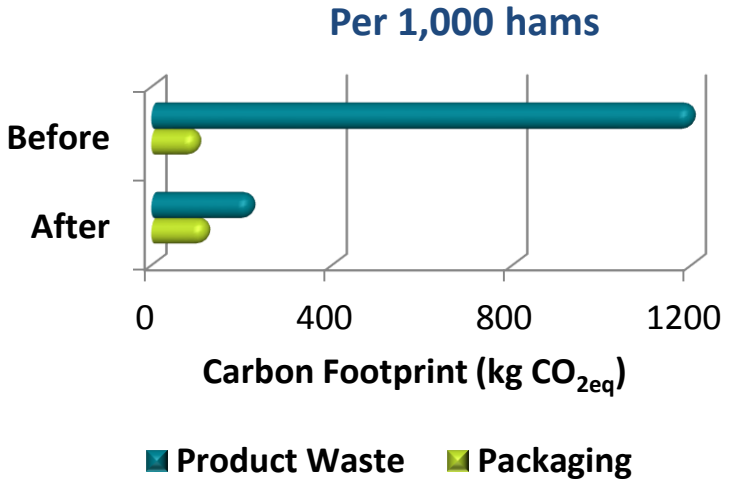
- Case study of hams in vacuum barrier shrink bags.
- Failures occurred during handling by retail store consumers.
- An audit of 18,000 shank portion hams was conducted across the supply chain.



Benefits of Protective Packaging

- Bone punctures caused package failures during retail display.
- Addition of 25% more packaging for puncture protection reduced damage during retail display by 73%.
- Improved package gave 82% reduction in total carbon footprint.

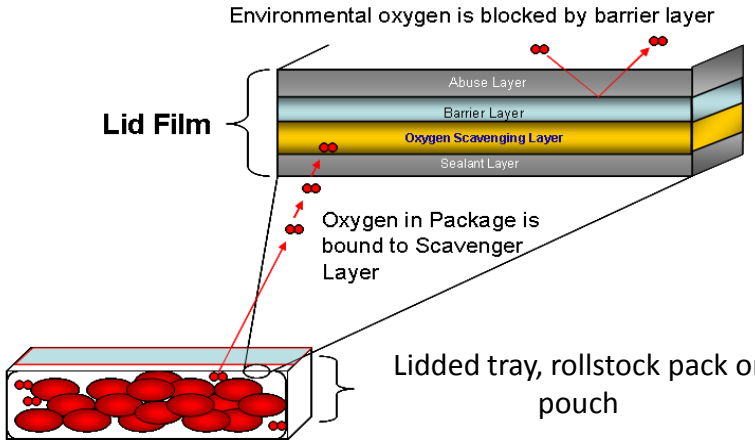
Precooked Ham Packaging



Source: Sealed Air Internal LCA Study

Headspace Oxygen Scavengers

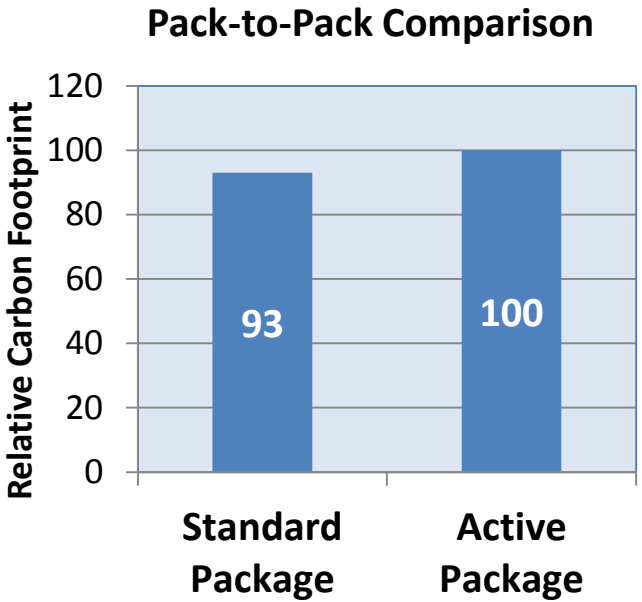
- Scavenger removes residual oxygen plus oxygen in the food and permeating into the package
- Extends shelf life, allowing broader distribution, longer time to sell, longer time to use.
- Avoids need for preservatives.
- Spoilage during distribution virtually eliminated.

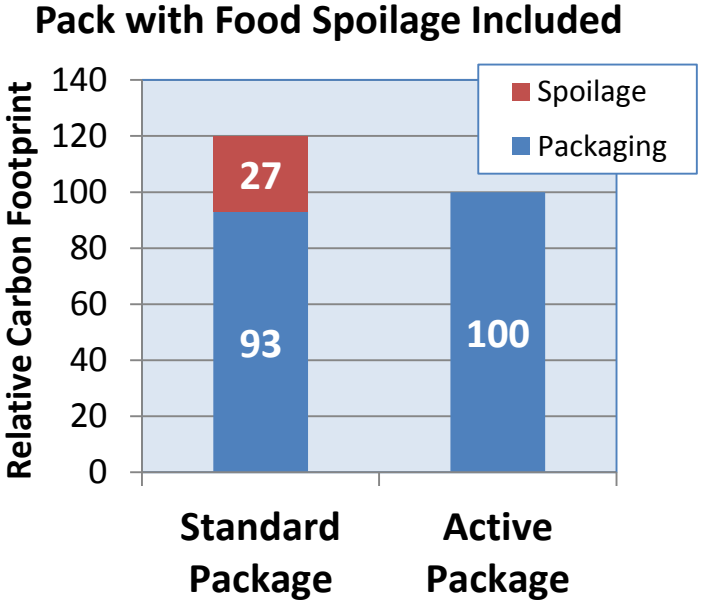


Benefits of Spoilage Reduction

Fresh Pasta Application

- Active package has higher impact than std package.
- By taking into account reduction in food spoilage, total impact is reduced by 20%.





Source: Sealed Air Internal LCA Study

Case-Ready Retail Packaging

- Fresh meat is packaged at processing facilities and distributed to either retail or case-ready plants
- At a case-ready plant, meat is repackaged into smaller portions with extended shelf life

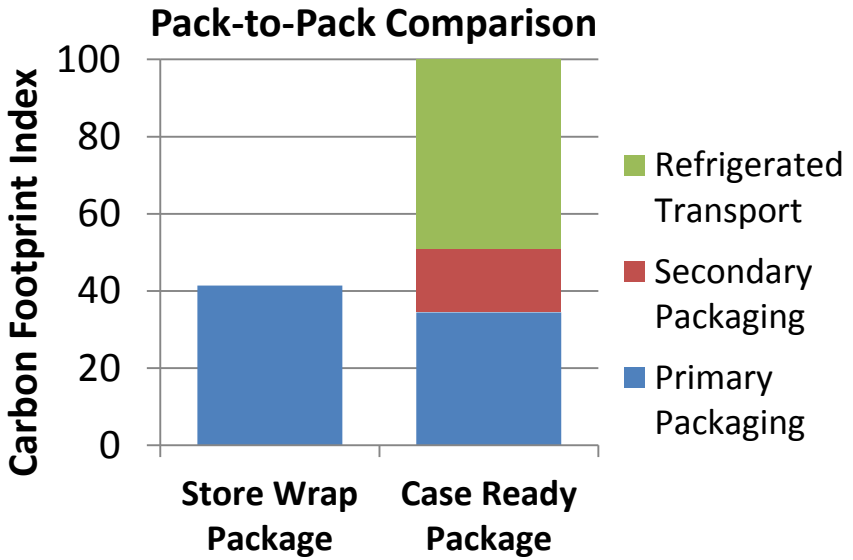
Fresh Meat Application

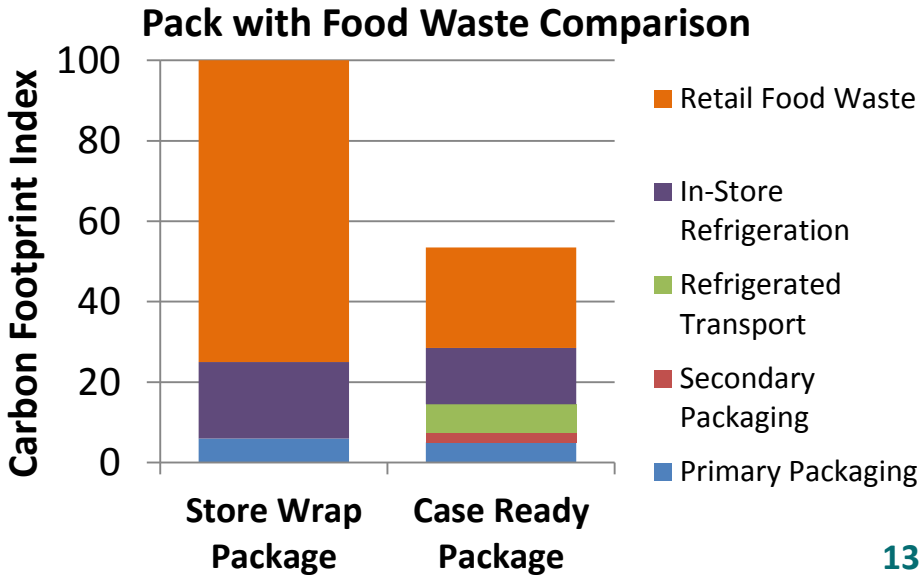
Retail Storage → Process in Store → **3-4 days shelf life**

Case-Ready Plant → Transport → Retail Storage → **14+ days shelf life**

Benefits of Reduced Food Waste

- Looking at pack comparisons only, case-ready impact is higher, due to need for secondary packaging and extra refrigerated transport.
- Case-ready packages extend fresh meat shelf life, which reduces retail shrink, and food waste—leading to lower overall impact.





Source: Sealed Air Internal LCA Study

Consumer Attitudes About Food Waste

Consumer Concerns

1. Unreliable food safety / hygiene
2. Amount of food wasted in the U.S.
3. Air pollution
4. Water shortages / drought
5. Natural resource scarcity
6. Climate change
7. GMO
8. Landfill

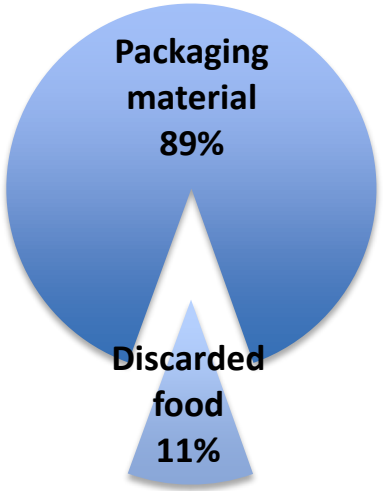
This survey was conducted online within the United States by the Harris Poll on behalf of Sealed Air in April 2014 among 1,005 adults aged 18+ who reside in the U.S. and who do at least 25% of their household's grocery shopping.

Source: Harris Poll on Consumer Food Waste (2014)

How Consumers See Packaging

- Nine in ten adults believe packaging material is worse for the environment than discarded food.
- Yet nearly half remove food from packaging that is designed to keep it fresher for longer.

Which is more harmful to the environment?



Source: Harris Poll on Consumer Food Waste (2014)

Consumer Packaging Preference

	No Wrapping	Shrink Wrap
Shelf-life Claim NOT Shown	73%	27%
Shelf-life Claim Shown	40%	60%
	Shelf life of 3 days if stored properly	**Shelf life of 14 days if stored properly**

Source: Harris Poll on Consumer Food Waste (2014)

Consumer Choices to Reduce Waste

Chicken
Bulk Pack

Chicken
Portioned Pack

Consumer Purchase Preference

46% | 54%

Likelihood to Reduce Consumer Waste

35% | 65%

Source: Harris Poll on Consumer Food Waste (2014)

Reputational Impact on Stores and Brands

I would think more highly of…

Stores that sell products that help consumers not waste the food they buy

Strongly/
Somewhat Agree

81%

Food brands that use packaging that helps me reduce food waste

Strongly/
Somewhat Agree

78%

Source: Harris Poll on Consumer Food Waste (2014)

Final Thoughts

Education

Consumers are concerned and respond to education on food waste in their homes

Innovation

Packaging that reduces waste in supply chain can reduce consumer food waste

Partnerships

Broad engagement across the value chain is needed to impact food waste