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"RECENT TRENDS IN FOOD PACKAGING"

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Agenda

- Introduction
- Theory of packing
- Smart packing
- Creative packing
- Conclusions

Introduction to packaging

Packaging means the wrapping or bottling of products to make them safe from damages during transportation and storage. It keeps a product safe and marketable and helps in identifying, describing, and promoting the product. “Packing is the preparation of product or commodity for proper storage and/or transportation.

Packaging FACTORS considered

1960…convenience
1970…light weight
1980…source reduction, energy saving
tamper evidence
1990 onwards…environmental impact
is considered

Art, Science and Technology involves in Packaging

Packaging exists at different levels

Primary packaging includes not just the materials in direct contact with the product, but all of the packaging which surrounds the product when the consumer takes it home. For a multipack of crisps, for example, the primary packaging will be the individual bags and the large bag into which the separate packs are packed.

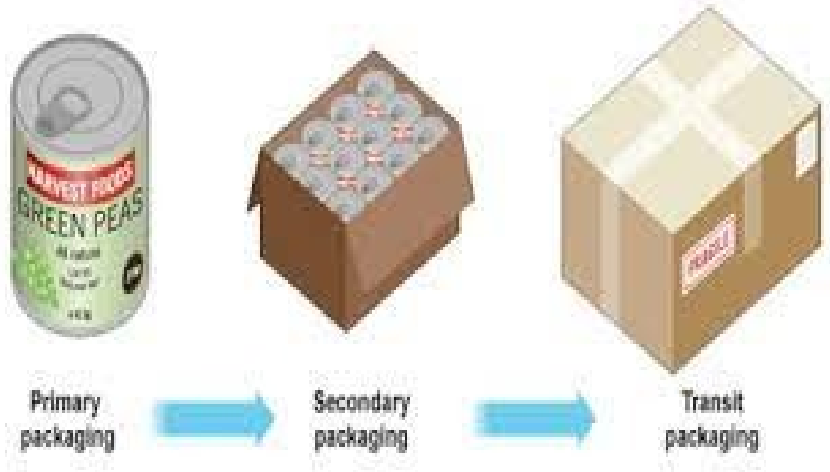
A useful way to define primary packaging is to think of it as all the packaging which eventually finds its way into the domestic waste stream, once the product is used up.

Secondary packaging is used to group packs together for ease of handling.

In the example above of the crisps, several multipacks are packed into printed corrugated cases. The case is the secondary packaging. Other examples of secondary packaging are shrink-wrap film, and the corrugated board and thermoformed plastic trays used for shelf-ready packaging.

Tertiary packaging is used to collate secondary packs for ease of transport.

One of the most common forms of tertiary packaging is the pallet, along with stretch wrap film and a label, to secure the secondary packs to the pallet and provide a ready means of identification. Roll cages and crates are also examples of tertiary packaging.



Poor basic packaging design significantly increases the risk of shrinkage.

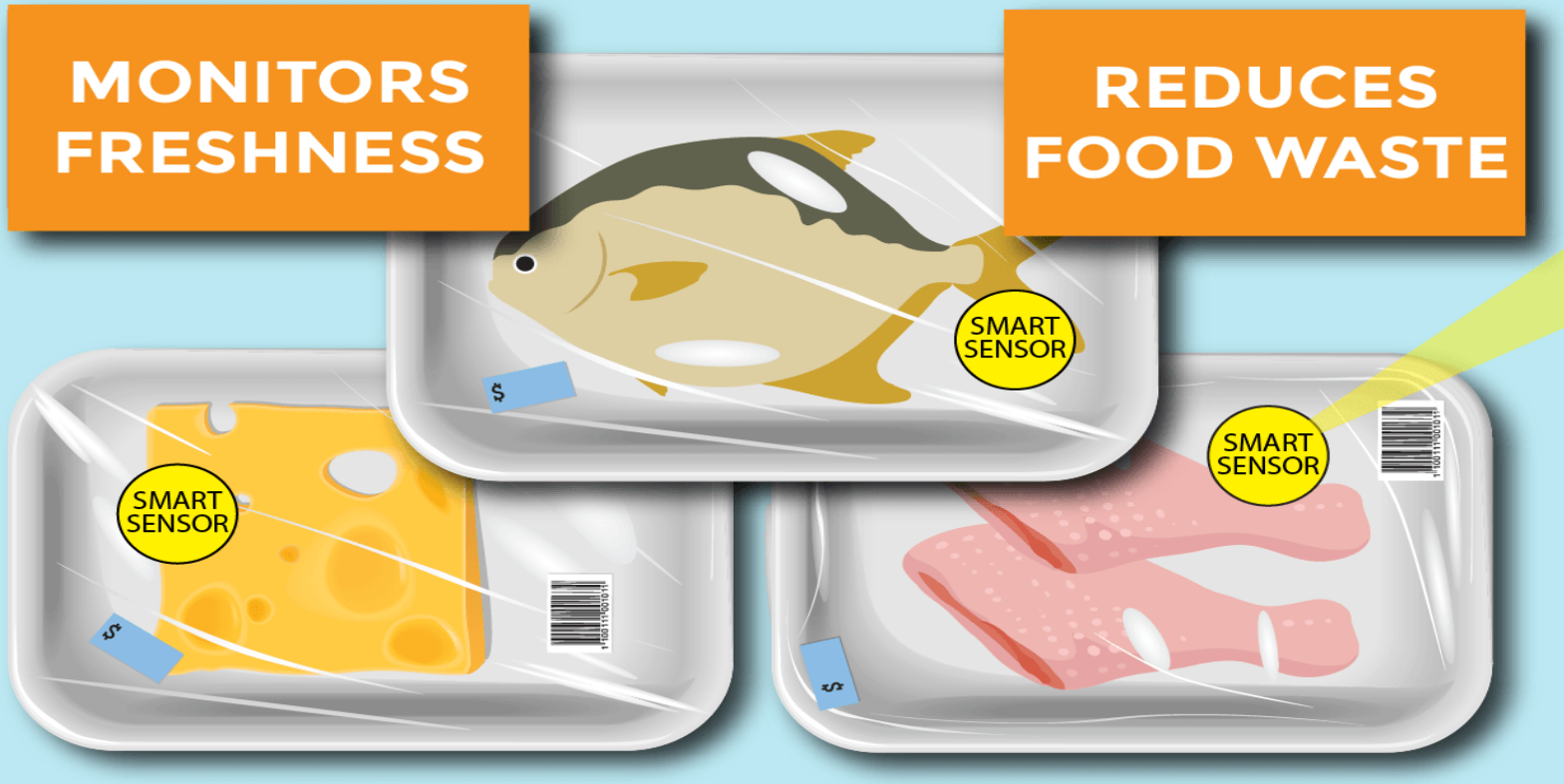
Badly designed packs are more likely to:

- allow their contents to become damaged in transit
- cause contamination through leakage
- experience product spoilage or damage
- contribute to product loss through misidentification
- lose of contents
- become too ugly to sell
- suffer decreased shelf life and consequent reduced sales.

Some consequences of poor packing

- **Spoilage**: products that have reached their expiry date or gone beyond agreed temperature parameters and are no longer safe to sell to consumers or staff.
- **Damages:** refers to products that have been damaged during the journey to the shelf and in the general store environment.
- **Data errors**: errors in the recording of product details on company systems.
- **Pricing errors**: losses caused by errors in the way in which goods are priced and sold in the business.
- **Delivery errors**: losses caused by incorrect quantities booked to the store inventory but not physically delivered or transferred.
- **Scanning Errors**: errors occurring at the point of sale leading to a discrepancy in the store book stock.

SMART Food Packaging



New film membrane sensor:

- can check food freshness without opening
- detects bacterial growth through pH changes
- is easily integrated in food packaging
- is safe in direct contact with food

Kiryukhin, M. V., et al.: "A membrane film sensor with encapsulated fluorescent dyes towards express freshness monitoring of packaged food," Talanta (2018)

SMART FOOD PACKAGING

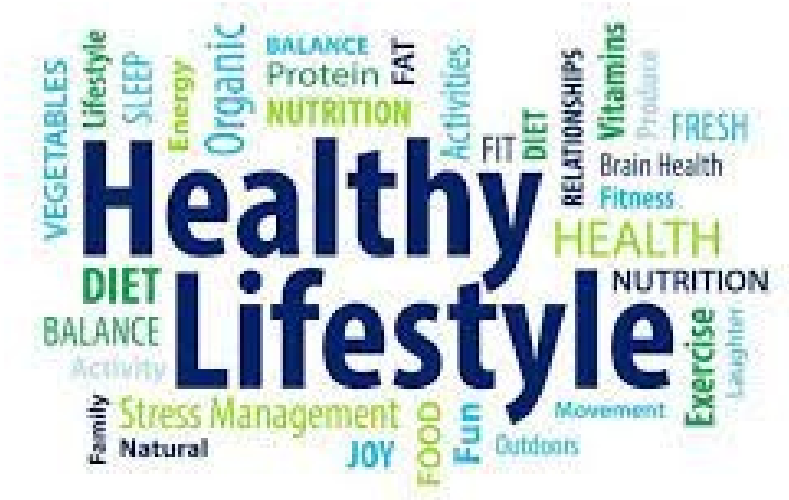
- Retain integrity and actively prevent food spoilage (shelf-life)
- Enhance product attributes like look, taste, flavor, aroma etc
- Respond actively to changes in product or package environment
- Communicate product information, product history or condition to user
- Assist with opening and indicate seal Integrity
- Confirm product authenticity and act to counter theft.

MOST SOPHISTICATED CONSUMERS

INCREASED WORKING WOMEN

SINGLE PARENT, DUAL INCOME HOUSEHOLD

LIFE STYLE CHANGE



HEALTH CONSCIOUS

AGING POPULATION

EDUCATED AND KNOWLEDGEABLE CONSUMERS

The Educated Consumer

A new generation of consumers

NUTRITION, FOOD SAFETY, LABELLING

Technology-Enabled Solutions

Fibre-based materials

Robotics

Smart packaging

3D printing

Emotional Engagement

Emotional Engagement

Paper Boat images evoke nostalgia. Image Courtesy: www.tetrapak.com

Vintage-Inspired Designs

Transparent and Clear Labelling

Increased Portability

Personalization

Minimal Designs

Gradient Colouring

Sustainability

Creative food packaging

Creative food packaging

How creative packaging design can elevate a product and make even everyday foodstuffs extraordinary.

Directly correlate to increased sales and brand buzz.

Creative packaging designs for rice and pasta

Rice packaging

Fresh meat packaging

Creative packaging designs soft drinks
Seltzer packaging

Creative packaging designs for dairy products

Milk packaging

Butter packaging

Mousegraphics of Greece also succeeded in differentiating a dairy brand in a visually overloaded market, but they did it in the opposite way – by stripping away design elements.

They were inspired by the brand's name **smör** (which is the Swedish name for 'butter'), creating a logo that transcribes the initial S to a visual reference to the rolling spires made by a knife on the butter surface. The packaging itself imitates a block of butter with a knob cut off.

Creative packaging designs for fast food

Burger packaging

Pizza packaging

Creative packaging designs for cereal
Cereal multipack packaging

Creative packaging designs for food on the go

Salad packaging

Creative packaging designs for alcoholic beverages

Wine packaging

Creative packaging designs for snacks

Nuts packaging
Dried fruit

Oxygen Scavengers

Carbon Dioxide (CO_2) Generators and Scavengers

Ethylene Scavengers

Conclusions

THANK YOU