

Tetra Laval

Tetra Laval Food for Development

Increasing the World's
Access to Safe Food

Benefits of UHT Technology
for School Feeding

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Our History & Tradition in School Feeding

For more than 56 years, we have participated in the development of school feeding and nutrition programmes, which have provided value to children and society around the world. In 2018, 66 million children in 59 countries received milk or other nutritious beverages in Tetra Pak packages in their schools.

66 million children

59 countries

● Countries with SFP using Tetra Pak packages 2018

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Effective School Feeding

Issues to consider

- ▶ Deliveries of foodstuffs
- ▶ Nutritional value of foods
- ▶ Food storage and preparation
- ▶ Accountability of foodstuffs
- ▶ Post-consumption requirements



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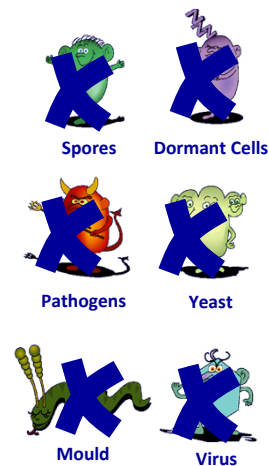
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UHT Technology and Tetra Pak Packaging

Food safety benefits

- ▶ Eliminates harmful bacteria and pathogens
- ▶ Sterilizes liquid food to be put into aseptic packaging
- ▶ Shelf life of 6 to 12 months without preservatives
- ▶ Nutritional value and quality maintained
- ▶ Ensures access by rural schools to hygienic and nutritious beverages

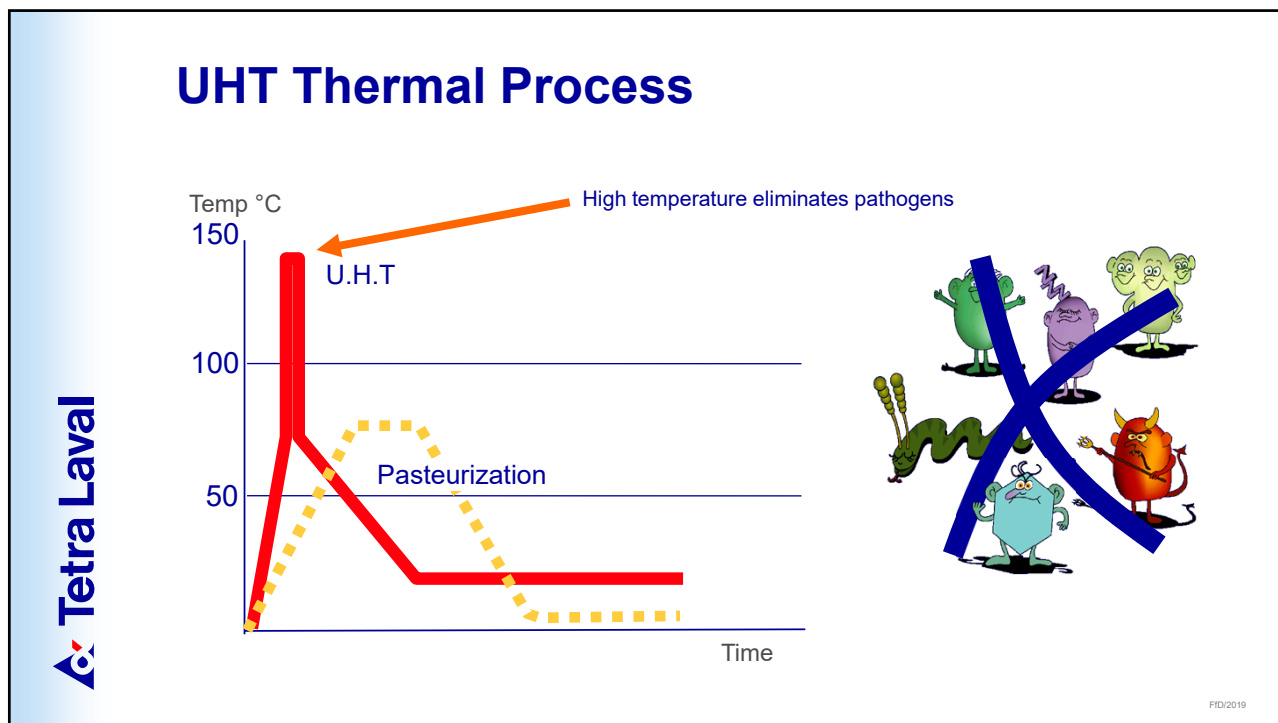


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Tetra Pak Aseptic Packaging

6 layers to Protect What's Good

1. Polyethylene protects against external moisture
2. Paper for stability and strength
3. Polyethylene adhesion layer
4. Aluminum foil keeps out oxygen, light, and preserve flavours
5. Polyethylene adhesion layer
6. Polyethylene seals in the liquid

Inner Sealing

Light, Aroma, Oxygen

External moisture

Package Stability

Microbiological barrier

1 Outer coating
2 Paperboard
3 Lamination
4 Al-foil
5 Internal Coating 1
6 Internal Coating 2
7 Product

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Issues Impacting School Feeding Logistics

Food safety could be compromised

- ▶ Lack of access to electricity
- ▶ Condition or lack of roads
- ▶ Physical infrastructure of schools
- ▶ Alternative distribution methods
- ▶ Flooding during the rainy season



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Country Example: Nigeria

Overcoming poor road conditions

- ▶ No paved roads in the interior of Nasarawa State
- ▶ Unpaved roads are in poor condition
- ▶ Pickup trucks used for deliveries to schools located on very bad roads



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Country Example: Haiti

Poor infrastructure at rural schools

- ▶ Most rural schools are in poor physical condition
- ▶ No kitchens to prepare school meals
- ▶ Lack of potable water
- ▶ Inconsistent electrical power supply
- ▶ UHT milk in sturdy aseptic packaging enables children to be provided access to nutrition



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Country Example: Guyana

Using alternate delivery mechanism

- ▶ Underdeveloped road infrastructure
- ▶ Road access hampered by periodic flooding
- ▶ Extensive river network
- ▶ Boats used for UHT juice deliveries



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Country Example: Colombia

Transition from powder to UHT milk with cereal beverage

- ▶ Inconsistency in preparation
- ▶ Parents receive bags of powder Bienestarina for home consumption
- ▶ Accountability and uniformity in ration size
- ▶ Tetra Pak collaborated with ICBF to develop Bienestarina in TBA 200ml. Slim
- ▶ 94% product acceptability by surveyed children



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Country Example: Peru

Transition from powder to UHT milk with cereal beverage

- ▶ Food safety and hygiene
- ▶ Acceptability issues
- ▶ Serving size uniformity
- ▶ Tetra Pak collaborated with Laive to develop fortified dairy beverage with cereals
- ▶ 81% acceptability rate from children



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Country Example: Panama

Distribution differences in UHT and pasteurised milk

Pasteurised Milk

- ▶ Daily deliveries to schools
- ▶ Reliable cold chain essential
- ▶ Additional cost (i.e. electricity)
- ▶ Surplus supply vs. attendance



UHT Milk

- ▶ Less frequent deliveries to schools
- ▶ No wastage
- ▶ Food safety more secure
- ▶ Consumption by all children

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Country Example: Dominican Republic

Distribution differences in UHT and pasteurised milk

Pasteurised Milk

- ▶ Daily deliveries to schools
- ▶ No cold chain before consumption
- ▶ Food safety a potential issue
- ▶ Surplus supply of milk vs. attendance



UHT Milk

- ▶ Less frequent deliveries to schools
- ▶ No wastage
- ▶ Food safety more secure
- ▶ Consumption by all children



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Country Example: Myanmar

Ease of use of aseptically-packaged UHT milk

- ▶ Difficult delivery conditions not a problem
- ▶ Easy storage and distribution
- ▶ Uniform nutrition intake
- ▶ Minimal post-consumption support required



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THANK YOU FOR YOUR ATTENTION!



For more information:
www.tetrapak.com/sustainability/food-availability

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