


Aseptic packaging and technology: Making perishable foods safe and available

We rely on food and beverages for our daily nutrition. Many of these items, such as milk, juice and plant-based alternatives, are highly perishable. Their short shelf lives present **many sustainability challenges**.

The EU produces

250
MILLION TONNES
of perishable foods
per year.¹

 If not aseptically processed and packed, perishables must be kept in the cold chain, with a shorter shelf life.

 Otherwise, the food will **decay and spoil** within days.

 Failure to follow precautions may pose **risks to human health**.

European policymakers now face the challenge of regulating packaging for this type of food **in line with the EU Green Deal ambitions**,² aiming to make food systems sustainable and resilient, while supporting reduction in food loss, food waste and carbon footprint.

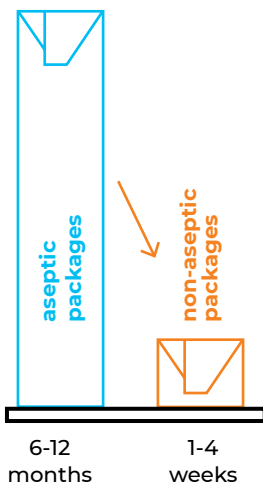


The aseptic process of heat treatment, filling and packaging at the food producer enables the absence of harmful microorganisms across the entire distribution chain until consumption.

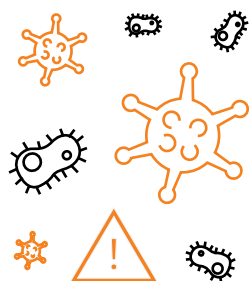
Everything in the production chain must be commercially sterile. That includes food and packaging materials, all machinery and the environment in which the food is packaged.

Without aseptic packages:

1 Shorter shelf life of perishable foods³



2 Increased growth of pathogens posing a health risk⁴



Food and beverages need to be at **pH <3.7 and kept at <4°C** along the whole value chain. This would require a redesign of the entire distribution chain.

3 Higher carbon footprint⁵

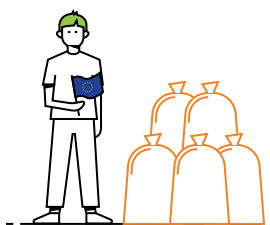
Single-use glass bottles
430g CO₂ eq / l

PET bottles
156g CO₂ eq / l

Reusable glass bottles
100g CO₂ eq / l

Aseptic beverage cartons
83g CO₂ eq / l

4 Increased risk of additional food waste



131kg
food waste
per EU citizen
per year⁶

¹Key figures on the European food chain, Eurostat, 2021 / ²A European Green Deal, European Commission, 2019 / ³Extended shelf life milk-advances in technology, Rysstad and Kolstad, 2006 / ⁴Growth of food-borne pathogens Listeria and Salmonella and spore-forming Paenibacillus and Bacillus in commercial plant-based milk alternatives, Klaudia Bartula, Máire Begley, Noémie Latour, Michael Callanan, FOOD MICROBIOLOGY, 2023. / ⁵"Impact assessment study of an EU-wide collection for recycling target of beverage cartons", ACE, February 2022 / ⁶Food waste per capita in the EU remained stable in 2021

By using aseptic packaging and technology, perishable foods:

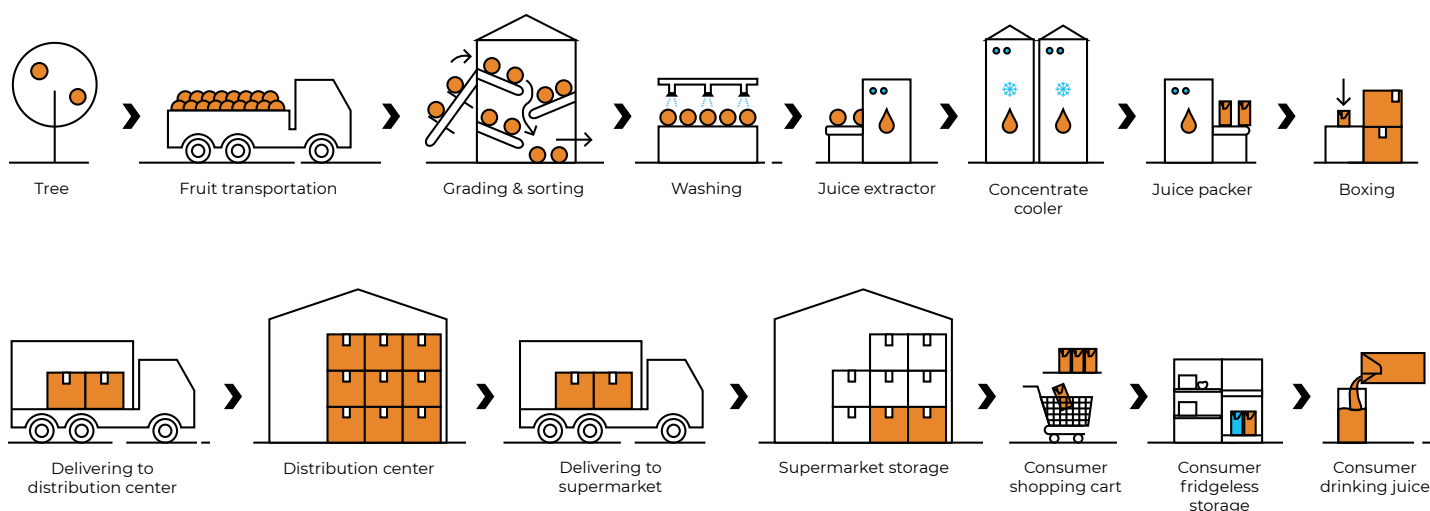
can be stored at ambient temperatures

for 6-12 months

without the need for cold chain distribution

Why do European juice and nectar producers prefer aseptic filling technology, combined with beverage cartons?

Aseptic juice processing and packaging systems **help extend the shelf life of perishable foods**, safeguarding against microbial spoilage, heat damage, and quality deterioration while minimising loss and waste along the packaging and distribution process.¹



The high share of renewable materials help beverage cartons feature a lower carbon footprint than many alternatives.³

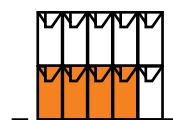
Did you know ...

In the EU beverage cartons are used for...



59% of juices²

40% of the total packaged juice volume is orange juice²



¹ Tetra Pak Orange Book / ² 2018 Liquid Fruit Market Report, AIJN, 2018 / ³ "Impact assessment study of an EU-wide collection for recycling target of beverage cartons", ACE, February 2022

Aseptic filling technology combined with innovative packaging, including aseptic beverage cartons, keeps food and beverages safe and flavourful for up to 12 months, without the need of refrigeration or preservatives.

Learn more about packaging perishable liquid foods



Tetra Pak[®]
PROTECTS WHAT'S GOOD