Initiative Mehrweg

rpe
reusable packaging europe

RCTP
ROUNDTABLE FOR REUSABLE CONTAINERS TRAYS AND PALLETS
COMMITTED TO CIRCULAR PLASTICS

Reusable plastic crates vs disposable cardboard crates

REUSABLE VS DISPOSABLE

One would think that “reusable before disposal” would be a clear message for everyone in 2023. Government has laid this down in the waste hierarchy, and many studies have shown the advantages of reusable over disposable systems.

Nevertheless, there are currently various publications that attempt to question these obvious facts. That’s why we would like to take a look in particular at the latest FEFCO publications on this issue and compare them with the results from studies by the Fraunhofer Institute.

These studies underscore the economic and ecological advantages of reusable systems, and it becomes evident from them that the way forward will be REUSABLE!

END OF THE LINE FOR DISPOSABLE –
REUSABLE FOR THE FUTURE

Current scientific studies by the Fraunhofer Institute confirm the clear advantages of reusable packaging. When considering the scientific study in holistic terms, claims made by the FEFCO can either be confirmed as not very plausible or even be partially refuted. The positive assessment of PPV disposable packaging by FEFCO arises from three factors according to the Fraunhofer Institute:

- ✕ unfavourable comparison parameters
- ✕ incongruent baseline scenarios
- ✕ omission of necessary comparison factors

From the scientific point of view of the Fraunhofer Institute, if the prerequisite criteria were uniform, this would confirm the results of the studies and the advantages of reusable packaging would become clear.

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REUSE VS RECYCLING

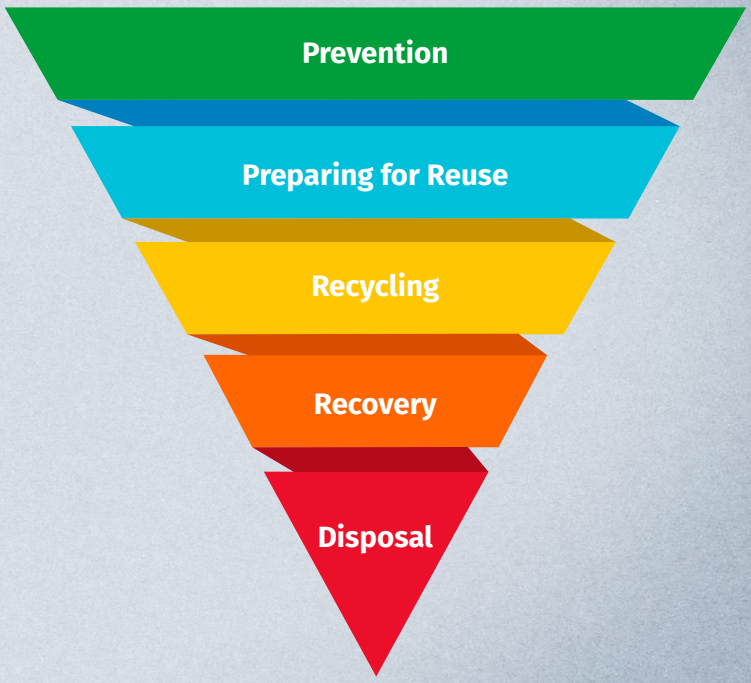
End of Life (EOL)
Reuse makes recycling possible in a true cycle

Reuse in combination with recycling protects the environment significantly better than disposable systems

Recycling with reusable systems

Recycling after single use

European Waste Hierarchy[1]
Directive 2008/98/EG



Speech by Steffi Lemke at the
2nd German REUSE Conference of the Deutsche Umwelthilfe

> **Reuse prevents waste and helps to stem the tide of packaging.**

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1) https://ec.europa.eu/environment/green-growth/waste-prevention-and-management/index_en.htm

1. HIGH CIRCULATION RATES SAFEGUARD THE ECOLOGICAL BALANCE

FEFCO's standpoint

Plastic reusable packaging would have to be used 63 times to have a better life cycle assessment than paper packaging, however it is usually only recycled 24 times.

According to the Fraunhofer study, the following is correct:

practical circulation number of at least **100×**

Lifetime of approx. **10 years** for reuse[2]

> "Defective crates are repaired, and less than 0.5% are discarded as unrepairable [...] and processed into regenerate, which in turn is used to produce new boxes. [...] Average lifetimes of 12 years are therefore common for reusable crates, making 120 circulations easily achievable for well-positioned companies."
>
> – Trader's opinion

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2) Even with the FEFCO circulation figure of 63, reusable would still be significantly more advantageous than disposable from the Fraunhofer's point of view

2. REUSABLE IS BETTER IN 15 OF 17 CATEGORIES

FEFCO's standpoint

In terms of environmental impact, packaging made from recyclable corrugated board outperforms reusable packaging in 10 out of 15 categories.

According to the Fraunhofer study, the following is correct

Reusable plastic crates are superior to single-use cardboard boxes in most of the categories studied.[3]

Conclusions from the Fraunhofer study

fruit and vegetable crates	bad	-1	neutral	+1	good
Number in circulation	◆			■	
Material efficiency	◆			■	
Return rate			◆		■
Repairability	◆			■	
Recyclability					■◆
Recycling rate				■	◆
Percentage of recycled material		■			◆
Plastic emissions				◆	■
Space requirements, modularity			◆	■	■
Volume reducibility				◆	
Product protection	◆		■		■
Digitisability			◆		■
Transport costs		◆		■	
Greenhouse gas emissions					■◆
Energy costs					■◆
Relative economic efficiency			◆		■
Technological sovereignty			◆		■

■ Reusable systems ◆ Disposable systems

3) Kunststoffbasierte Mehrwegsysteme in der Circular Economy Obst- und Gemüsesteigen, Eine Systemanalyse im Auftrag der Stiftung Initiative Mehrweg, p.14

3. LOWER BREAKAGE RATE WITH REUSABLE SYSTEMS

FEFCO's standpoint

The breakage rate is lower for disposable than for reusable.

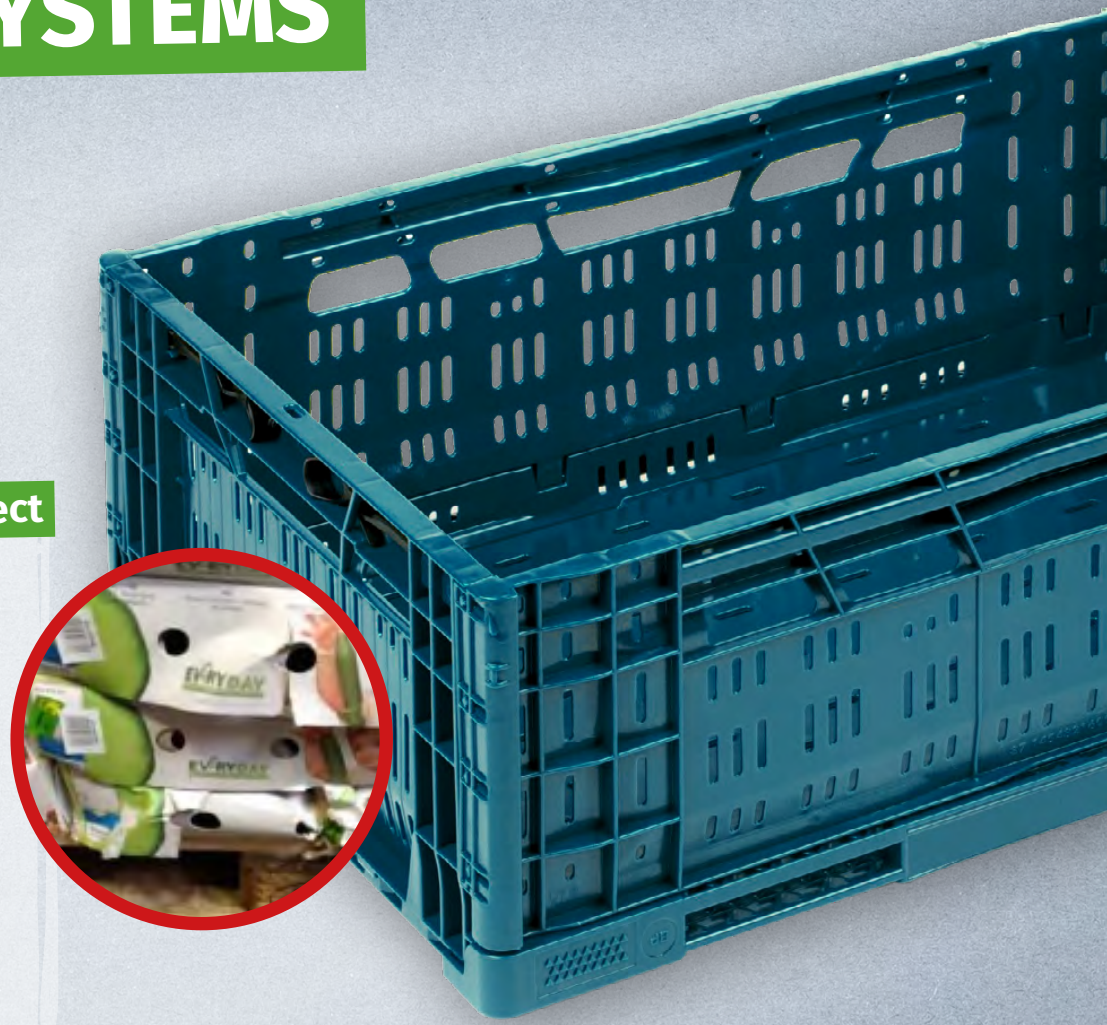
According to the Fraunhofer study, the following is correct

Disposable breakage rate:

0.82%

Reusable breakage rate:

0.02% [4]



4) Save food studie, p.19: Damage and losses along the supply chain, https://www.stiftung-mehrweg.de/de/nachhaltigkeit/studien

4. BETTER ECOLOGICAL BALANCE

FEFCO's standpoint

Corrugated cardboard performs better than reusable boxes in various scenarios in terms of the environment.

According to the Fraunhofer study, the following is correct

For the most part, reusable crates produce lower greenhouse gas emissions than disposable crates. The number of items in circulation, decentralised distribution structures, [...] and weight reductions all play a role and reflect the advantages of reusable packaging.[5]

Fraunhofer
CCPE

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5) Kunststoffbasierte Mehrwegsysteme in der Circular Economy – Eine Systemanalyse, p. 112

5. REUSABLE POOLING – NEARLY 100% RECYCLING AT EOL*

* EOL = End of life

FEFCO's standpoint

Plastic packaging offers a recycling rate of only 42%

According to the Fraunhofer study, the following is correct

Crates that circulate in a pool system and and are sorted out there reach almost 100%[6]

83% recycling of PCC means nearly 200,000 trees felled per year.[7]

Paper and cardboard packaging

83 % Recycling

Reusable crates up to

100 % Recycling

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6) Kunststoffbasierte Mehrwegsysteme in der Circular Economy – Eine Systemanalyse, p. 111
7) Source: PPK-Transportverpackungen (nabu.de)

LOOK CLOSELY IT PAYS

Reusable systems reduce dependency on imports and strengthen technological sovereignty.

Reusable (saving primary raw materials) in combination with recycling (at the EoL of a reusable packaging) protects the environment significantly better than disposable as it prevents waste in accordance with the EU Environmental Protection Directive. Reusable systems offer better product protection and make modern digitalization solutions possible.

DOWNLOAD STUDY

WHAT REUSABLE SYSTEMS ACHIEVE!

Compliance with the EU Waste Directive

- Conservation of resources
- Reduction of waste
- Implementation of sustainability

high impact across the entire supply chain

- Optimisation and improved efficiency of logistics flows
- Safety and smooth operation
- Environmentally friendly

Independence in the cycle of materials

- Conservation of precious raw materials
- Independent, sovereign supply chain
- Closed loops

Sustainable product concept

- 50% of reusable systems on the market saves 1 million tonnes of packaging material*
- Quality, reliability, long-term use
- Ready for digitalization and smart labels
- Management and prevention of wastage

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* Source: PPK-Transportverpackungen (nabu.de)

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