



# Best practices in the production of sustainable rigid packaging for the agricultural industry

SISTERS Project  
Practice Abstracts

No. 40

**Author:**  
ITC Packaging (SISTERS partner)

**Country/Region:**  
Spain

**Keywords:**  
#RigidPackaging  
#FoodWasteReduction  
#AgriculturalIndustry

**Contact Information:**  
AITIIP Centro Tecnológico  
(Spain - Project Coordinator)  
carolina.penalva@aitiip.com

**ITC Packaging**  
(Spain - SISTERS partner)  
soliver@itc-packaging.com

## The problem

Biodegradable plastic materials often have challenging rheological properties that make them unsuitable for thin-walled injection-molded containers. Additionally, their mechanical properties are typically poorer than those of non-biodegradable plastics available on the market.

## The solution

The SISTERS project has focused on developing an innovative biodegradable plastic material, along with the eco-design and molds for three formats of thin-walled, rigid injection-molded containers. These containers save energy during production, since their melting temperature is lower than that of conventional plastics, and display mechanical and functional properties similar to those of traditional food-grade plastic containers. These developments pave the way for the industrial production of these containers.

## Benefits



Reduced energy consumption and CO<sub>2</sub> emissions.



Bio-based and compostable alternative to traditional packaging.



Reduced dependence on fossil resources.

# Best practices in the production of sustainable rigid packaging for the agricultural industry



## PRACTICAL RECOMMENDATIONS

### Recommendations for the Agri-food Industry

- Use these containers for fresh products that do not require high barrier protection.
- They are ideal for products that leave residues in the container, ensuring a sustainable end-of-life solution.
- Improve your environmental footprint using containers that are both biodegradable and bio-based, contributing to lower CO<sub>2</sub> emissions.



#### About SISTERS and this Practice Abstract

This practice abstract was elaborated in the framework of the SISTERS project, based on the EIP AGRI practice abstract format. © 2024

**Project dates:** from November 2021 to April 2026.

**Goal:** to systemically reduce food loss and waste in the main stages of the food value chain in Europe through innovations targeted to each stage of the chain.