Multi-actor design of low-waste food value chains through the demonstration of innovative solutions to reduce food loss and waste

# PRACTICE ABSTRACT No: 21

## Innovations for Food Waste Reduction

The LOWINFOOD project tested 14 innovations to tackle food waste in various contexts, aiming to advance them to high Technology Readiness Levels. Eight innovations showed measurable or partial success in reducing FLW, highlighting practical opportunities for improvement and application by practitioners.

Successful examples include the use of smart bins in Germany, Greece, and Switzerland, which helped canteens track and reduce plate waste, and forecasting software for bakeries in Germany, which minimized surplus by improving production planning. A mobile app in Italy enabled restaurants to sell leftover meals directly to consumers, reducing post-consumer waste while offering affordable food options. Similarly, a cooperation system in Austria effectively redistributed fruit and vegetable by-products, preventing losses and adding value to supply chains. An innovation developed in Italy and tested in Romania showed the potential to recover surplus food in agriculture, supporting the implementation of a CAP measure providing economic aid to producers facing losses.

Some challenges emerged, including limited access to production data and organizational reluctance to share information, which hindered the ability to measure the impact of certain innovations. Additionally, some tools relied heavily on user engagement, which affected their overall performance and effectiveness during testing.

Practitioners can benefit from these innovations by reducing operational costs, improving resource management, and contributing to sustainability goals.


### Author(s)

Claudia Giordano (LUKE)

### Contact

Clara Cicatiello
cicatiello@unitus.it


### Country/region

European Union, Switzerland and United Kingdom


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## Additional information

A detailed report on the results of the 15 demonstrations will be published on the LOWINFOOD website in 2025, titled:

"D 1.6: Evaluation of the Efficacy of the Innovations."

All Practice Abstracts prepared by LOWINFOOD can be found here!

**lowinfood.eu**

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## ABOUT LOWINFOOD

The LOWINFOOD project, launched in 2020 and coordinated by the University of Tuscia, Italy, is working to deploy and improve a set of 14 innovative solutions to the food waste problem, by demonstrating their effectiveness and market potential. The core activities of the project are all focused on the evaluation of the efficacy of these innovations in reducing food losses and waste, in terms of the amount of food waste avoided as well as their environmental and socio-economic impact.

## CONSORTIUM

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## Innovazioni per la riduzione dello spreco alimentare

Il progetto LOWINFOOD ha sviluppato e testato 14 innovazioni per ridurre lo spreco alimentare in diversi contesti, puntando a stadi avanzati di avanzamento tecnologico. Otto di queste hanno mostrato risultati positivi, parziali o completi, offrendo soluzioni pratiche per ridurre gli sprechi e migliorare le performance operative.

Ad esempio, i "cestini intelligenti" utilizzati in Germania, Grecia e Svizzera hanno aiutato le mense a monitorare gli scarti nei piatti, mentre un'app in Italia ha consentito ai ristoranti di vendere surplus food ai consumatori o di incentivare l'uso delle doggy bag. In Austria, un sistema di cooperazione ha permesso di recuperare sottoprodotti di frutta e verdura, rimetterli in circolo sul mercato e creare nuovo valore economico. Un'innovazione creata in Italia e testata in Romania ha mostrato il potenziale di recuperare surplus food nel settore agricolo, facilitando l'applicazione di una misura della Politica Agricola Comune che prevede l'elargizione di misure di sostegno economico per i produttori che incorrono nelle perdite.

Tuttavia, alcune innovazioni hanno incontrato ostacoli: la difficoltà di accesso ai dati di produzione e la riluttanza delle aziende a condividerli hanno limitato la possibilità di misurare gli impatti, mentre altri strumenti si sono rivelati troppo "faticosi" da adottare rapidamente.

Le misure che hanno ottenuto esiti favorevoli offrono ai professionisti un'opportunità concreta per ridurre i costi, ottimizzare la gestione delle risorse e raggiungere obiettivi di sostenibilità, creando valore economico e ambientale.



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