



REINWASTE

REmanufacture the food supply chain
by testing INnovative solutions for zero
inorganic WASTE



Countries:

Bosnia-Herzegovina,
France, Italy, Spain

Target Groups:

Agrifood companies,
agriculture clusters,
research and innovative
institutes

Themes:

Waste management

Key Words:

Waste prevention,
innovative solutions,
agrifood supply chain

Starting and Ending Dates:

January 2016 -
January 2021

Inorganic materials (plastic film, nylon, greenhouse coverings, agrochemical packaging, food packaging, amongst others) are poorly recycled and occasionally abandoned in natural areas, damaging local ecosystems. To face this problem,

REINWASTE brought together a group of SMEs from the agrifood industry, public agencies, and technology centres and innovation centres to identify solutions for the management of inorganic waste in the agrifood sector.

Objectives

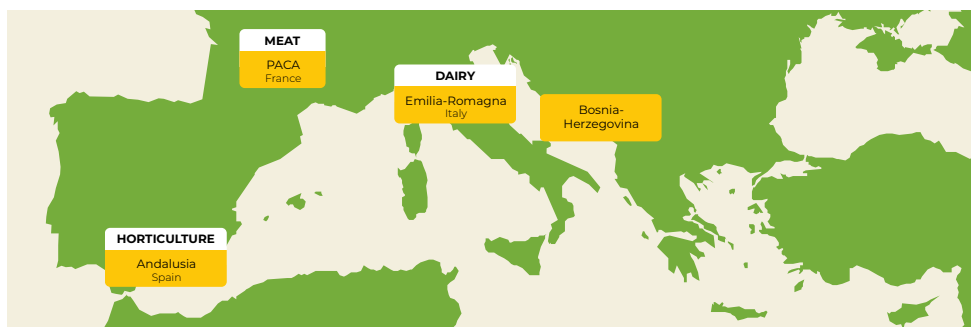
The project is addressed to agrifood sector actors, agriculture clusters, research and innovation centres, and has the following objectives:

- Collect data on the waste flow and management at the plant/farm level
- Find suitable and affordable solutions to reduce inorganic waste in line with company needs and expectations.
- Run a feasible testing and experimentation on site.

**Innovating to
prevent waste
disposal in the
agrifood chain:
a responsible
investment for a
more sustainable
future**

Solutions

- Redesigning products and processes based on preventive solutions: promoting the reuse of materials, rethinking unnecessary packaging and logistics optimisation.
- Using biomaterials (i.g. biodegradable or compostable) in the production process (e.g. to substitute plastics used in greenhouse horticultural production) or that can be used in eco-design by developing innovative packaging.
- Managing waste through separation, appropriate conditioning, waste traceability systems and associative waste management models, amongst others.



Recommendations

Dairy Production

- Replacement of silage film and plastic ballast bags
- Replacement of plastic baling nets and wires
- Light-weighting of plastic films to wrap cheeses
- Replacement of plastics with biodegradable materials
- Replacement of composite materials with new nanomaterials to improve the recycling of collected packaging
- Adoption of new infra-red technology to prevent disruptive controls on packaging in the processing line

Meat Production

- Bio-degradable foil
- Eco-design: use of wood (cutlery)
- Increase the mix of recyclable plastics and cardboard
- Traditional trays: lower density to facilitate the recycling
- Replacement of plastic films for live-stock fodder
- Replacement of plastic bale netting and wires

Crop Production

- Alternatives for conventional use of raffia and clips: substitution, separation, re-use and correct elimination
- Thin padding plastics: alternative solutions (compostable materials, other cropping techniques or cleaning systems for proper waste elimination)
- Valorisation options for thin plastics and non-reusable packaging
- Traceability systems from exploitation area to waste treatment facilities
- Establishment of a waste management system model at a cooperative level
- Implementation of the use of trays made from recycled material (PET)
- Logistics optimisation (secondary packaging)
- Identification of biodegradable primary packaging options
- Eco-design of cardboard packaging for stop cups from falling
- Eco-design of primary packaging

Lessons learnt and recommendations

There is a lack of knowledge about affordable alternatives to inorganic waste across the agrifood sector, which is an important barrier to address. In this sense, **REINWASTE** project contributes to raising awareness among stakeholders and

transferring knowledge about the best innovative solutions. At a legal and political level, the project recommends creating incentives for adopting innovative solutions to reduce inorganic waste and improve waste management.

Partners:



The InterregMED Green Growth Community

Green Growth is a thematic community that promotes sustainable development in the Mediterranean within the framework of the Interreg Med Programme. It supports the sound management of natural resources by enhancing cross-sectoral innovation practices through an integrated, territorially-based cooperation approach.

The community supports its projects in communicating and capitalising on their results to increase their impact at the policy level and ensure their potential transfer into other territories.

Visit our website:

green-growth.interreg-med.eu

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Further Information:

REINWASTE Website:

reinwaste.interreg-med.eu

REINWASTE Deliverables Database

Contact:

M^a Antonia Cobacho Vargas
e: relac.internac.agapa@juntadeandalucia.es
tel: +34 955 059 700
+34 670 945 944

Social Media Channels:





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Union for the Mediterranean
Union pour la Méditerranée
الإتحاد من أجل المتوسط



REINWASTE

Type of the result:

Offline tool consisting of a checklist and a decision tree to identify strategies to improve the management of inorganic wastes within the agri-food sectors

Language(s) in which the result is developed:

English, Spanish, French and Italian

What is the most appropriate level for its use/implementation?

Local, Regional, National and International

DESCRIPTION OF THE RESULTS

The **Customised Operational Model** is a tool to support agri-food companies (primary sector and industry) to preliminarily analyse the way they are managing inorganic waste in their production processes. This model has been designed based on the experience and results from the pilot activities carried out in three agri-food value chains (dairy, horticulture, and meat production) in which different innovative solutions were tested to reduce non-recyclable waste. By using this tool, farmers and agri-food companies will understand and contextualise their current management of inorganic waste, and will identify steps to improve on this. The tool is part of the REINWASTE Service, the main project output that systematises the offer and demand of innovative solutions for waste prevention and management.

The Customised Operational Model is made up of two existing tools:

- **Self-evaluation checklist:** An assessment tool that sets out specific criteria for farmers and other agri-food actors to assess the development of waste management within their production processes.
- **Decision tree:** A decision support tool that uses a tree-shaped graph or model displaying potential decisions, actions, and their consequences. The goal is to identify an effective strategy to reduce inorganic waste production.



PROJECT IMPLEMENTATION AND EVALUATION BY END-USERS

The tool itself has not yet been implemented. However, the inputs used to design the tools come from the results of the REINWASTE project pilots which tested innovative solutions to reduce inorganic waste in farms and other agri-food value chains.

Users of the model should begin by filling in the self-evaluation checklist with the required quantitative and qualitative information. Once completed, the user will have a clearer idea

of the current waste generated and how it is processed, which will be used as a 'starting point' for reducing the volume and improving its management. Users can also apply the decision tree model, which shows different solutions for waste prevention, reuse, and recycling for each material identified. The tool identifies the best strategy for each user to improve their management of inorganic waste at their scale of production.

WHAT IS THE TRANSFER POTENTIAL?

The tool supports producers and actors across the agri-food industry to take stock of the inorganic waste they generate, how they manage it, and what are the first steps they could take to reduce it. The self-evaluation checklist includes some quantitative questions (which may vary between different production areas) such as the volume of inorganic waste produced per year, the management costs (in terms of % of their turnover), and the investments required for waste reduction.

The tool will also increase awareness about the waste generated across the agri-food sector, while indicating solutions for its reduction. Furthermore, proper management of inorganic waste can contribute to achieving the goals of the EU's Circular Economy Strategy. Last but not least, proper management of inorganic waste can help farms and other agri-food companies to reduce their operational costs.

WHAT IS THE PROJECT REPLICABILITY?

All actors within the agri-food sector can apply the tool to their production processes. Both the checklist can be completed by companies, organisations, or actors of any structure, and the decision tree can be used for any inorganic waste material.

WHAT CHALLENGES MAY ARISE?

There is a lack of awareness about waste management amongst companies in the agri-food sector and this may reflect in resistance. By highlighting this challenge, the Customised Operational Model will contribute to the necessary reduction of single-use packaging and inorganic materials used in agricultural production (such as mulching plastic and plastic used for greenhouse structure covers); if these materials are not properly managed, they produce negative environmental impacts.