

Task 4.2.5 Transferability Plan for the agri-food supply chain in ANDALUSIA



Junta de Andalucía

Consejería de Agricultura, Ganadería, Pesca
y Desarrollo Sostenible

AGENCIA DE GESTIÓN AGRARIA Y PESQUERA DE ANDALUCÍA

DOCUMENT PREPARED BY FIAB
with contributions of AGAPA

January-2021

TRANSFERABILITY PLAN

Name of the REINWASTE partner: FIAB

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1. Strategic phase

1.1. Identification of the target supply chain(s) that will benefit of the transferability action

Although, REINWASTE pilot tests has been performed in specific horticulture sector (vegetables and fruits) industrial sector, the results obtained from the innovation solutions can also be disseminated to other industrial sectors of fruits and vegetable production in Andalusia.

Red Fruits Sector

One of the priority sectors is the red fruit sector in the province of Huelva (Andalucía, Spain). The red fruit sector is one of the Andalusian agricultural sectors that has undergone the greatest development in recent decades. The cultivation of strawberries has made the province of Huelva the leading strawberry exporting region in the world, combining the introduction of new cultivation techniques, technological innovations and entrepreneurship. Huelva is the world's largest exporter of red fruits with 1,130 million euros, which represents 93% of exports in 2019. Therefore, the production of red fruits in Andalusia continues to be one of the most important pillars of the province and the autonomous community.

Olive Oil Sector

Another sector in Andalusia where REINWASTE experience can be transferred is the olive oil sector; Spain is the world's leading olive oil producer, with an average annual production of 1,300,000 tons, reaching 1,848,000 in recent seasons. With more than 300 million olive trees covering more than 2 million hectares, its cultivated area represents more than 25% of the world olive area. Andalusia being the largest producer in Spain with 80% of the national production.

Industrial sectors of red fruits as well as olive oil generate a significative volume of plastic used in packaging, hence the need to improve plastic waste management and its minimization is crucial for their sustainability and competitiveness.

Furthermore, the impact of this waste on the environment generates a clear social alarm, which reinforces the need to develop efficient sustainable management models and innovative practices, which prove the

appropriate treatment of plastics and contribute to the promotion of an effective circular economy in agri-food value chains. In this framework, REINWASTE highlighted some innovative practices for the red fruit value chain and olive oil chain among other Andalusian agri-food value chains, to guide these sectors towards the reduction of plastics.

For this reason we will take full advantages from REINWASTE results and knowledges disseminating them to increase industries awareness about the impact of waste on the environment and on the market, as well as their level of adoption of innovations tested in the REINWASTE project that could help to minimize the generation of waste in their packaging processes and therefore this will make them more sustainable and competitive.

1.2. Ex-ante analysis and diagnosis of the target supply chain(s) current state, in order to identify what are needs and main challenges in the framework of inorganic waste minimization that justify the transferability action

Red Fruits Sector

The south of Spain has a great tradition when it comes to berry cultivation. For this reason, Andalusia is one of the most recognized regions in terms of the production and distribution of berries. Huelva being the main exporting and importing province of these fruits. The qualities of the Huelva land offer red fruits unique and unrepeatable organoleptic characteristics.

Strawberry, raspberry, blueberry and blackberry crops constitute an important engine in the development of the Huelva economy, with direct effects, as they generate employment and wealth in the area, and with indirect effects, allowing creation around the sector of an auxiliary industry and an important service network.

A strong point of red fruits in Andalusia, is that 93% of the production is integrated into producer organizations and also has an interprofessional organization, this would facilitate the transfer of results from the REINWASTE project and best practices.

It is also a sector that continues to advance in terms of environmental and social sustainability of the sector, which is perceived as essential for the consolidation or even growth of demand in the national market and, especially, in the European market.

Olive Oil Sector

On June 30, the consultation period opened by the Ministry of Agriculture, Fisheries and Food (Map) for the preparation of the Draft Royal Decree approving the quality standard for olive and olive-pomace oils ended, a text that seeks "to update the legislation to adapt it to the current situation of the sector and to technological advances, promoting the quality of olive oil as one of the basic pillars for the development of this sector." **Among the aspects that it aims to regulate is the use of different formats and materials,**

standing out among the first paragraphs as “in line with the policies of the European Union in terms of sustainable development and in particular those referring to the reduction of the use of plastics, the use of this material is limited in this standard for some products, whose image may also be deteriorated in certain forms of presentation”. In this sense, article 7 of the text that has been made public for review, entitled “**Specific obligations of packaging**”, contains a wide series of measures that affect the world of packaging in general, such as the need for packaging not to modify the characteristics of the content or transmit strange flavors or odors, as well as the obligation that consumers only be supplied in formats of up to 5 l capacity, leaving the larger ones only for communities. However, the most controversial aspect has to do with article 8, which establishes the prohibitions that affect this industry. In addition to keeping in force the ban on transferring or refilling oil containers used in the hotel industry, **the text also adds the prohibition on the commercialization of the variety of extra virgin olive destined to final consumers in plastic containers, with the sole exception of those supplied in single-dose containers.** According to its content, once the consultation period is over, the drafting phase of the project is now open, which, according to its third additional provision, should come into force on January, 2021. Source: Alimarket <https://www.alimarket.es/envase/noticia/317615/finalizado-el-periodo-de-consultas-sobre-la-nueva-normativa-del-aceite-de-oliva>

Taking into account the above mentioned, we consider that it is a good moment to transfer the advances and studies carried out within the framework of the REINWASTE project to this olive oil sector, offering alternatives to plastic and the best practices derived from the project. It is a very important sector in Andalusia and Spain that we know is committed to sustainability with a high level of innovation, already adapting to new trends in packaging in favor of its competitiveness and offering the consumer what it demands in terms of environmental sustainability.

2. Pre-intervention phase

2.1. Describe the general and specific objectives (linked to the ex-ante analysis) that the transferability measures aims to achieve

The transferability plan aims to increase industry adoption of the tested innovative practices in REINWASTE project to minimize inorganic waste generation, generally and mainly plastics. To this end, it is intended to:

- 1- Increase the level of awareness of industries regarding the significant volume of plastics generated in the agri-food value chains and its impact on the environment, generally and their competitiveness in particular, etc.

- 2- Increase the level of knowledge of industries regarding the existing of technological innovations in the market and the innovative practices tested by REINWASTE and their technical, economic, and environmental results.
- 3- Increase the level of adoption by industries of these innovations in their packaging.
- 4- To enable industries how to take advantage of the new quality attributes linked to “zero-waste production” processes to added value to their products and create market opportunities and, therefore, improve their competitiveness and profitability at national and international levels.

In addition to these specific objectives for red fruits and olive oil industrial sector in general and other Andalusian industrial horticulture systems we detail below a strategic plan, targeting the main stakeholders of the agri-food value chains in Andalusia.

- **General public**, whose objective would be to disseminate the approaches of circular economy and waste management to ordinary citizens, via:
 - Media (Ex: press releases sent to Media).
 - Partners websites (Ex: FIAB website).
 - Consumers (Ex: Brochure distribution in events like Alimentaria Barcelona, ForoTransfiere, FIAB Research Annual Congress-ALIBETOPIAS)
- **Stakeholders inside each value chain:**
 - Publication of results and findings in specialized magazines.
 - Sharing of results through all FIAB associations.
 - Sharing of results through FoodforLife-Spain Technological Platform working groups related and through PACKNET (Technological Platform of Packaging) platform working together with FoodforLife in issues related to packaging.
 - Information dissemination through the Regional Agricultural Offices.
 - On-line transfer events to agrifood stakeholders (Ex: final event to be held in February 2021).
- **Institutions:**
 - Meetings with involved Agricultural Administration Authorities at local and regional level.
 - FoodDrinkEurope meetings of working group of Research and Innovation; and working group of Sustainability.

The previous transfer plan will include a wide range of actions on technical and scientifically conferences, fairs, courses, congresses, sectorial and JCR journals at national and international. In the table below we detailed the main activities:

2.2. Explain to which extent the results of the pilot actions implemented into the WP3 pilot could be transferred to the target supply chain

Although the objective of this transfer plan is to disseminate to the Andalusian agricultural sectors and general public the results of the pilot tests implemented during the REINWASTE project, it is planned to adapt this objective according to each industrial system that may potentially have similar practices, and target group in society.

Related to the packaging for berries, as well as those for fruits and vegetables studied within the framework of REINWASTE, they must also adapt to the new packaging regulations in order to align with the sustainable development objectives set by Europe.

All the results obtained in the lines of the study carried out at REINWASTE can be applied to red fruit packaging such as the following solutions or best practices:

- 100% R-PET. Manufactured with recycled PET of bottle origin complying with the set of regulations regarding food packaging.
- Bio-PET. New formulation of PET plastic with a high level of biodegradability and with a significant reduction in its durability in contact with the environment allows the material to decompose and, later, disappear within a certain period of time.
- PLA. Packaging made with this biopolymer of natural origin, biodegradable and compostable, for which it is transformed by 90% into natural elements in a period of six months under composting conditions. The benefits of PLA are similar to those of PET plastic.
- Other material like cardboard, cellulose or special ecological films.

According to the general public (consumers, students, etc.) as a target group of this transfer plan, the objective will be to disseminate and increase their knowledge about all aspects related to the impact of plastic waste on the environment and the importance of changing their attitude and habits in their purchasing and consumption decisions, to minimize the generation of waste from the demand side. Likewise, conceptual aspects linked to bioeconomy, circular economy, biodegradability, composability, bioproducts, waste, etc., will be explained. Conventional and other alternative plastics in agri-food products will be also added in the training material. In short, the objective is to raise their level of awareness regarding agricultural and industrial waste, in general and plastic, to increase their level of willingness to buy and pay for agri-food products whose production systems have generated zero or with minimum of waste.

Below some details about the innovative practices results that will be transferred:

- Weight reduction: Lightening of the packaging, increase of primary packaging units for each grouping container. Increase in the amount of product contained without modifying the characteristics of the packaging.
- Reduction of Environmental Impact: Reduce the presence of heavy metals in packaging; Reduce or eliminate printed surfaces of packaging; Substitution of materials that generate a lower environmental impact; use of packaging with certificate of sustainable management of natural resources; and use of packaging from renewable sources.
- Redesign: Use of larger capacity packaging, Reduce the volume of the product to use less quantity of packaging, lightening of the packaging by design change, optimization of palletisation mosaic and modification of the design of the packaging to facilitate a better use of the product.
- Re-use: Replacing single-use packaging with reusable ones, Second use: Use of used packaging or waste of the productive processes for the packaging of products, Commercialize the product in rechargeable packaging, minimizing the amount of packaging necessary for recharging, Preparation

for reuse: Increase the shelf life of reusable packaging by improving their physical-chemical properties and / or repair techniques or replacement of parts, Improve the characteristics of reusable containers to extend their useful life.

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The expected impact of the outlined actions to be carried out in the agro-food stage, will affect the whole supply chain in different aspects, basically a reduction of the logistic costs and a lower consumption of plastics (thinner packaging, substitution with biodegradable and compostable materials and avoiding the use of packaging).

Throughout this transfer plan, we will use the training materials prepared in the REINWASTE project such as, ematerial, videos, articles, among others.

3. Intervention deployment (options: in presence, virtual, only on paper)

List below the most suitable transferability initiatives dedicated to the target supply chain(s). This list can include ideal and/or potential interactions to be organized even after the project lifetime.

List of transferability initiatives		Description of the objective of the transferability	Main beneficiary	Timing (deployment period)
N°	Type of intervention (workshop, webinar, study visit etc...)			
1	FIAB Congress in Alimentaria Barcelona - ALIBER	Project stand with brochure and staff to explain REINWASTE results of pilot tests to interested attendants. Estimated target group: 200	Food Industries, Technological Centers, General Public	May 2021
2	FIAB RDI Congress - ALIBETOPIAS	Project stand with brochure and staff to explain REINWASTE results of pilot tests to interested attendants. Estimated target group: 300	Food Industries, Technological Centers, Universities, Consultancy	October 2021
3	FoodforLife-Spain, Packaging Working Group meeting	Pilot tests results presentation to experts on packaging belonging to industry, technological centers Estimated target group: 30	Food Industries, Food Associations, Technological Centers, Universities, Consultancy	16 th March 2021 and 15 th September 2021

4	FoodforLife-Spain, Quality Production and Sustainability Working Group meeting	<p>Pilot tests results presentation to experts on packaging belonging to industry, SMES, food associations and technological centers</p> <p>Estimated target group: 40</p>	Food Industries, Food Associations, Technological Centers, Universities, Consultancy	15 th April 2021 and 30 th June 2021
5	FoodforLife-Spain, Training and Technology Transfer Working Group meeting	<p>Pilot tests presentation to industry, food associations and technological centers</p> <p>Estimated target group: 20</p>	Food Industries, Food Associations, Technological Centers, Universities, Consultancy	22 nd April 2021 and 30 th September 2021
6	Distribution of information and dissemination material into the Regional Agricultural Offices. On-site or on-line events through the Regional Agricultural Offices.	The Regional Agricultural Offices are devoted to spread information and assist farmers about agricultural issues, facilitating farmers the access to the services of the Regional Ministry of Agriculture. As such, they can be a good platform to disseminate information about inorganic waste reduction and the innovative solutions tested in REINWASTE through the distribution of information material, or the organisation of on-line or on-site events.	Farmers and agrifood industries	During all the year 2021 and 2022
7	On-line transfer events to Andalusian agro-industries, farmers, policy makers and other stakeholders	As part of the initiatives included in the Plan to improve the competitiveness of the agricultural, livestock, fishing and agro-industrial sectors and rural development of Andalusia 2020-2022, which includes, a programme to improve knowledge in the management of inorganic waste, on-line transfer events will be organised joining the agri-food sector, policy makers, researchers, waste managers and other stakeholders with the aim to increase agri-food production	Policy makers, agrifood industries, farmers, waste managers, researchers, and other stakeholders.	Feb 2021 and subsequent events during 2022

4. Post-intervention phase

To be filled out in case you manage to organize some transferability initiatives during the project lifetime

4.1. How do you globally evaluate the effectiveness of the transferability plan deployment?

- ☐ Poor (low efficacy of the transfer plan / poor interest by the external stakeholders)
- X Good (the transfer plan meets the expectations of the external stakeholders)
- ☐ Excellent (the transfer plan likely mobilize the external stakeholders to consider the REINWASTE approaches / solutions as strategy to reduce inorganic waste)

4.2. How many external economic stakeholders did you globally concern into the transferability phase?

More than 500 stakeholders will be concerned by direct activities in the transferability phase but the real number is really higher taking into account that FIAB is composed by more than 45 associations representing 30,000 food companies and that results will be shared with all of associations in order they replicate them to their companies as well as with the more than 150 stakeholders associated to FoodforLife-Spain technological platform managed by FIAB.

TOTAL ESTIMATED TARGET GROUP OF THE TRANSFERABILITY PLAN: At least 5,000 stakeholders.

4.3. What are the main barriers that the target stakeholders / supply chain should face when approaching the solutions proposed by REINWASTE

Main barriers at the present moment are related to COVID19 pandemic situation, as food companies are focussed on production. By the other side they are attending online meetings and congresses, trying to get all the information available related to innovation and sustainability as they are committed to environment issues in order to be aligned with Sustainable Development Goals.

4.4. Will the target stakeholders / supply chain likely implement the REINWASTE approach / solutions afterwards?

Yes, food industry, whatever the sector (berries or olive oils) needs to implement all the best practices available related to innovative sustainable packaging in order to continue to be competitive following all regulations related.