

WP4

TASK **4.2.6: OTHER SECTORS - OTHER COUNTRIES KNOWLEDGE** TRANSFERRING

DELIVERABLE 4.2.6E THIRD COUNTRY TRANSFERABILITY PLAN JOINT VISION

DOCUMENT PREPARED BY: ART-ER

In cooperation with UES, FIAB, FEDERSERV, ANIA, IFAPA-AGAPA, CONFAGRI, ANIA-CRITT-CRACAPA

December 2020



01. The REINWASTE project: goal and case studies

Inorganic materials (films, nylon, greenhouse coverings, food packaging...) used in agrifood production, both in farms and agro-industries, are still poorly recycled and some are abandoned in nature. Given the increasing consumers' awareness and the environmental regulations, the Agrofood stakeholders take their responsibility to mitigate the problem.

REINWASTE aims at helping companies from the Food industry and the Agriculture to reduce in very drastic ways their own packaging and inorganic inputs that could end up as waste and replace them by more environmentally friendly solutions. The project sets up a methodology to prevent and minimize their waste proposing technological and organisational solutions like the use of bio-based and/or biodegradable materials within the products and processes, among other solutions. With the support of three influencing Public and Private Partnerships, three value chains are involved in testing innovative solutions in inorganic waste: horticulture in Andalucía, meat in Sud-PACA, dairy in Emilia-Romagna. External expert teams have cooperated with companies according to a collaborative and open innovation approach. Innovative solutions are planned to move towards Bosnia-Herzegovina, involving the academic and scientific world.

To limit the production of inorganic waste REINWASTE identified and tested solutions to:

- Optimize the use of bio-based materials which are biodegradable/compostable.
- Enhance the use of recyclable materials
- Redesign products and processes.

02. Scope of the document

The purpose of the task - *Other sector- other countries knowledge transferring*, is to transfer the good practices matured during Reinwaste project to new Countries, which were not directly concerned by the pilot actions, and to other potential sectors.

The technology transfer within REINWASTE, illustrated in WP 4.1.Methodological document, is intended as a process steered by REINWASTE partners that generates a wider awareness and ownership of REINWASTE tested solutions towards the widest possible range of SME and companies within the identified agri-food chains, and opens up for the adaptation of these solutions to new value chains or countries.



Transfer strategy, within REINWASTE, aims to support companies in their innovation processes and encourage collaboration with the research system, favouring the exchange of know-how and the creation of networking and business opportunities between Research Institutions, both on the regional and international territory, both at the regional and at the international level.

The target Countries that are concerned by the country-specific transferability plans, in addition to those where Reinwaste pilots have been performed, are Bosnia Herzegovina, Greece and Slovenia. A pool of experts in agri-food waste reduction, treatment and circular economy have been engaged to develop country-specific Transfer Plans covering these aspects:

- 1. needs and main challenges in the framework of inorganic waste minimization in their own target Country, with regard both to primary sector and food processing;
- 2. recommended technology transfer actions to fill the gap and support the transition towards a minor use of inorganic waste across the agri-food supply chain;
- 3. most relevant actors to be concerned in the transferability / technology transfer actions.

Covid-19 outbreak has greatly influenced the operations of this task.

03. Pandemic impact limitation and contingency measures

Due to the impact of COVID-19 on laboratories, educational, exhibition and meeting spaces, the transfer ambitions of the project have been affected and somehow readjusted according to the pandemic impact context.

The original vision of Reinwaste task has been maintained and the originally foreseen transfer plan produced for each of the value chains and regions. In parallel, the transfer activities has been reconceived through exclusively online encounters with Reinwaste. Lockdown meant that the project team could no longer meet in person. Access to shared areas, fairs, exhibitions, conference room was prohibited most of the year 2020. Highly restrictive measures were put in place in all the 3 countries, as well as in the rest of Europe.

While Reinwaste consortium is not alone in dealing with the constraints imposed by the pandemic, this task has been particularly impacted by such constraints because of its main stakeholder orientation. Notably, the collapse of social spaces, where Reinwaste was to be transferred were impossible to access, thus digital solution were largely adopted to face the contingency. Videos clips, on-line events, social channels (such as you tube and others) were used. The extra time necessary for making adjustments, as well as the challenges and redeployment of resources that enabled the project to be realised,



presented a workload increase on the consortium, at especially trying times, and justify the delay in the realization of the activities.

04. Methodology

The transfer plan was conceived with the cooperation of all Reinwaste partners involved in the pilot actions via the following steps:

- 1) Preparation of a dedicated template by ART-ER (Del.4.2.6 a)
- 2) Identification of experts to perform an analysis of target countries needs and gaps
- 3) Mapping of key stakeholders to be involved
- 4) Planning and execution of transferring activities feasible within Covid-19 scenario.

In order to support partners in the execution of online events, ART-ER prepared a guidance document on webinar realization (Annex 1) and shared with all partners.

05. Realized activities

This chapter summarizes the main outcomes of the transferring actions which were performed:

• International knowledge transfer event organized by UES and ART-ER

As part of the activities carried out regarding the transfer of good practices from the Reinwaste project, UES in collaboration with ART-ER organized an international online event "*Transfer of Good Practices for Inorganic Waste Reduction in the Primary Sector (Agriculture) and Food Industry*" whose main objective was transferring the results of REINWASTE pilot actions targeted to reducing inorganic waste production within food value chains in the three partner regions in Spain, France and Italy. Experts from Bosnia Herzegovina, Slovenia and Greece presented their perspective from their national context. The international event was held in two sessions, from November 30 to December 1, 2020; the first was dedicated to agriculture while the second one to the food industry. The webinar agenda is included in Annex 2.

A specific invitation letter has been prepared for all partners to disseminate and promote the event to their contacts, including the experts appointed for the assessment of specific countries needs. The letter is included in Annex 3.

Both event sessions were opened by the UES REINWASTE project member Dragan Vujadinović and the IFAPA REINWASTE project coordinator María Antonia Cobacho Vargas. In his introductory speech, Dragan Vujadinović presented the University of East Sarajevo, as the organizing institution and the agenda of the event, while the REINWASTE project coordinator María Antonia Cobacho Vargas from AGAPA gave an



overview of the project, its main goals, the methodology used and the obtained results (presentation available here).

REINWASTE partners presented the best practices from the project experience in the field of agriculture and food industry sector, in order to generate a wider awareness and ownership of REINWASTE pilot solutions towards the widest possible range of SMEs and companies, and open up for the adaptation of these solutions to new value chains or countries.

Presentations of the pilot tests from the agricultural sector were given by Daniele Mezzogori and Gloria Chiappini, Confagricoltura (Reduction of inorganic waste in dairy livestock companies in Emilia-Romagna), Fátima Rojas Serrano, IFAPA (REINWASTE Primary sector pilots in Andalucia) and François GROËLL, CRA PACA (The management of inorganic waste on French farms: a system unique in Europe).

Presentations of the pilot research from the food industry sectors were given by Fabio Licciardello, University of Modena and Reggio Emilia (Reinwaste experience within the dairy industry in Emilia-Romagna), Concha Ávila, FIAB (Reduction of inorganic packaging waste industry horticulture sector in Andalusia, Spain) and Jacques Thébault, ANIA (Results of the REINWASTE France pilot in the meat industry).

The last session for both days was held by experts from three target countries, Bosnia and Herzegovina, Greece and Slovenia. They presented key-drivers and inputs to facilitate and enhance the transferability of REINWASTE approach to new Countries, underlining the needs and main challenges related to inorganic waste minimization in their own country, the recommended technology transfer actions, and the most relevant actors to be concerned in the transferability/technology transfer actions.

Presentations within the agricultural session were held by Thomas Bartzanas, Agricultural University of Athens (Inorganic waste management in agriculture sector in Greece), Vesna Miličić, Chamber of Commerce and Industry of Slovenia - Chamber of Agricultural and Food Enterprises (Inorganic waste in agricultural sector in Slovenia) and Milan Vukić, UES (Inorganic waste in agricultural sector in Bosnia and Herzegovina). Presentations within the food industry session were held by Thomas Bartzanas, Agricultural University of Athens (Inorganic waste management in food sector in Greece), Petra Medved Djurašinović, Chamber of Commerce and Industry of Slovenia -Chamber of Agricultural and Food Enterprises (Inorganic waste in food sector in Slovenia) and Svetlana Pelemiš, UES (Inorganic waste in food sector in Bosnia and Herzegovina).

The event came as one of the results transferring actions of the project. In addition to their presentations, experts from the target countries (Bosnia and Herzegovina, Greece and Slovenia) also prepared Technical papers covering primary sector and food processing sector in their countries, that contributed to this "Third Country Transferability Plan". The main conclusion of the event was that the potential of transferring of Reinwaste solution is high, given that all countries face similar challenges in the reduction of inorganic waste production. The event was attended by 105 people from different countries inside but also outside the Mediterranean region. Complete list of the attendees can be found in Annex 4 to the current report.



All presentations are available online at the following links: Day 1 - Agriculture; Day 2 - Food Industry.

The events were recorded for reporting purposes only, the recordings are also available at these links:

<u>Registration Day 1 - Agriculture;</u> <u>Registration Day 2 - Food Industry</u>.

• Social media promotion of project videos to raise awareness on Reinwaste project

The Reinwaste project video showing the main results of pilot tests, and country specific video clips were promoted on social media (Twitter, Youtube, websites) from the different partners and a special promotion was performed during Ecomondo 2020 Digital Edition, the main Mediterranean expo for green and circular solutions, which was attended by more than 21.000 participants.

The image below shows a screenshot of the Youtube channel where the videos are uploaded.



• Knowledge transfer to EIP Agri Groups

One of the key actions which was identified in the transfer plan was the connection with EIP Agri to increase knowledge transfer within the Agriculture sector. A specific Infosheet on the substitution of traditional mulching films with biogdegradable ones has been developed and will be published on EIP Agri website. This Infosheet is included as Annex



- 5.
- Transfer plan identifying real and potential transfer opportunities to Bosnia Herzegovina, Slovenia, Greece (Del.4.2.6b, c,d).

This action is fully aligned with the original plan proposed in the Reinwaste application. The results are organized in separate OUTPUTS deliverables as foreseen in the proposal and they consist of 3 main OUTPUTS, as specified:

- OUTPUT 4.3.7 Transfer Plan Bosnia Herzegovina
- OUTPUT 4.3.8 Transfer Plan Greece
- OUTPUT 4.3.9 Transfer Plan Slovenia.

06. Future outlook

From the performed transfer actions and from the discussions which have taken place, within both agriculture and food industry several focus areas can be identified for future activities on reducing inorganic waste in food value chains, which are also synergic with the actions identified in Reinwaste Action Plan for the partner regions:

- Facilitate expert dialogue and exchange of knowledge on strategies for inorganic waste reduction
- Initiate new collaborative research projects to cover the gaps in terms of material availability with suitable mechanical properties for its use in agriculture and food industry
- Ensure capacity building and knowledge transfer not only to the business sector and to the research sector but also to regulatory agencies and public administrations in terms of waste management strategies, in order to overcome barriers to innovation which arise from policy measurements.



07. Annexes

Annex 1 - Guidelines on webinar realization

Examples

- Train-the-trainer video
- Collaborative tool list
- INTERREG webinar & slide

Annex 2 - Agenda International Transfer Event "Transfer of Good Practices for Inorganic Waste Reduction in the Primary Sector (Agriculture) and Food Industry" November 30, December 1, 2020





Annex 3 - Invitation letter to Reinwaste International Event Nov.30, Dec.1, 2020





The Faculty of Technology Zvornik, University of East Sarajevo, is pleased to invite you to Reinwaste international online event "Transfer of Good Practices for Inorganic Waste Reduction in the Primary Sector (Agriculture) and Food Industry" on Nov 30 and Dec 1, 2020. The event will include two sessions:

Session 1: Agriculture Nov 30 11:00 - 13:30

Session 2: Food Industry Dec 1 11:00 - 13:30

The event aims at transferring the results of INTERREG MED REINWASTE pilot actions targeted to reducing inorganic waste production within food value chains in the three partner regions in Spain, France and Italy. Experts from Bosnia Herzegovina, Slovenia and Greece will present their perspective from their national context, and will be available for discussion.

The event is organized in collaboration with ART-ER Attractiveness Research Territory, Italy, and is part of the activities of the INTERREG MED REINWASTE (https://reinwaste.interreg-med.eu/).

Please find attached the agenda for the event, and for registration click the following <u>link</u>. Registration is free of charge but it is necessary to receive the link to connect to the event, please note you should register separately for each day.

Sincerely,



Annex 4 - Attendants list "Transfer of Good Practices for Inorganic Waste Reduction in the Primary Sector (Agriculture) and Food Industry" Day 1- November 30th, 2020 - Primary Sector

First Name	Last Name	Email	Date Attending	Country of origin
Dragan	Vujadinovic	draganvjd@gmail.com	Nov 30, 2020 at 11:00 AM	B&H
Mirjana	Beribaka	mirjana. beribaka@gmail. com	Nov 30, 2020 at 11:00 AM	B&H
Милан	Вукић	vukic88@gmail.com	Nov 30, 2020 at 11:00 AM	B&H
Vivek	Babu Girija	vivek@mssrf.res.in	Nov 30, 2020 at 11:00 AM	India
Sara	Picone	sara.picone@art-er.it	Nov 30, 2020 at 11:00 AM	Italy
Rosana	Garcia	rosana.garcia@juntadeandalucia.es	Nov 30, 2020 at 11:00 AM	Spain
Françoise	Gorga	fgorga@ania.net	Nov 30, 2020 at 11:00 AM	France
FRANCOIS	GROELL	f.groell@paca.chambagri.fr	Nov 30, 2020 at 11:00 AM	France
Juliette	Chauveau	ichauveau@ania.net	Nov 30, 2020 at 11:00 AM	France
Milan	Borojevíc	mikib@teol.net	Nov 30, 2020 at 11:00 AM	B&H
Fatima	Rojas Serrano	fatima.rojas@juntadeandalucia.es	Nov 30, 2020 at 11:00 AM	Spain
Mariana	Lorbach	marianab.lorbach@iuntadeandalucia.es	Nov 30, 2020 at 11:00 AM	Spain
Merce	Boy Roura	merce.bov@uvic.cat	Nov 30, 2020 at 11:00 AM	Spain
RAYNAUD	MYLENE	mlravnaud@maregionsud.fr	Nov 30, 2020 at 11:00 AM	France
Liiliana	Vukelic	vukelic@prijedorcanka.com	Nov 30, 2020 at 11:00 AM	B&H
Melchor	Guzm'an Guerrero	melchor guzman@iuntadeandalucia.es	Nov 30, 2020 at 11:00 AM	Snain
Antonia	Cohacho Vargas	antonia cohacho@iuntadeandalucia.es	Nov 30, 2020 at 11:00 AM	Spain
FRANCISCO			Nov 30, 2020 at 11:00 AM	Snain
Claire	Combre	claire combre@critt.iaa.naca.com	Nov 30, 2020 at 11:00 AM	France
ESRA		akaya@aashtaknonark.com.tr	Nov 30, 2020 at 11:00 AM	Turkey
lurica	Primorac	iurica primorac@aptf.cum.ba	Nov 30, 2020 at 11:00 AM	R&H
Ana	Mandíc	ana mandic@antf sum ha	Nov 30, 2020 at 11:00 AM	B&H
Deian	Nandic	deien sedije@rers.msn.org	Nov 30, 2020 at 11:00 AM	B&H
Emmonuel	Kabaya	manukah0001@gmail.com	Nov 30, 2020 at 11:00 AM	
SEVELDON	KADEya	koouvisspikos@moil.com	Nov 20, 2020 at 11:00 AM	Greene
	MAULO	kaourisspirosegnail.com	Nov 30, 2020 at 11:00 AM	Snoin
shakiba	norheen	josea.jimenez.maino@juntadeandarddia.es	Nov 30, 2020 at 11:00 AM	spain
shakiba	parnoon Sawéanalaa	parnun.snakiba@gmail.com	Nov 30, 2020 at 11:00 AM	Iran Gasin
Rarael	rernandez	rafael.fernandez.gomez@juntadeandalucia.es	Nov 30, 2020 at 11:00 AM	spain
Iviarta Samin	Campos	marta.campos@juntadeandalucia.es	Nov 30, 2020 at 11:00 AM	Spain
Samir	Sayadı	samin.sayadi@juntadeandalucia.es	Nov 30, 2020 at 11:00 AM	spain
Daniela	Sani Masawita Callana	daniela, sani@art-er.it	Nov 30, 2020 at 11:00 AM	Italy Coordin
Antonio	iviezquita Gallego	Inseparable09@notmail.es	Nov 30, 2020 at 11:00 AM	spain
Juan Jose	De Leon Barca	jjose.leon@juntadeandalucia.es	Nov 30, 2020 at 11:00 AM	Spain
Nadira	Berbic	nadira.berbic@cener21.ba	Nov 30, 2020 at 11:00 AM	B&H
Thiri	May Thwe	thirimaythwe.ms.may@gmail.com	Nov 30, 2020 at 11:00 AM	
ANDREJ	GREGORI	ANDREJ.GREGORI@ZANARAVO.COM	Nov 30, 2020 at 11:00 AM	Slovenia
Кристина	Трипуновић	kristinatripunovic@yahoo.com	Nov 30, 2020 at 11:00 AM	B&H
Encarnacion	Martinez Navarro	encarnacion.martinez.n@juntadeandalucia.es	Nov 30, 2020 at 11:00 AM	Spain
Bozana	Odzakovic	bodzakovic@yahoo.com	Nov 30, 2020 at 11:00 AM	B&H
Anastasio J	Villanueva	anastasioj. villanueva@juntadeandalucia. es	Nov 30, 2020 at 11:00 AM	Spain
Cyril	Bertrand	cyril.bertrand@critt-iaa-paca.com	Nov 30, 2020 at 11:00 AM	France
Vesna	Milícíc	vesna.milicic@gzs.si	Nov 30, 2020 at 11:00 AM	Slovenia
Victor	Carbajal	victor.carbajal@uvic.cat	Nov 30, 2020 at 11:00 AM	Spain
Svetlana	Pelemiš	svetlana.pelemis@tfzv.ues.rs.ba	Nov 30, 2020 at 11:00 AM	B&H
Slavko	Smiljanić	slavkosm @gm ail.com	Nov 30, 2020 at 11:00 AM	B&H
Daniele	Mezzogori	mezzogori@confagricoltura.it	Nov 30, 2020 at 11:00 AM	Italy
Gloria	Chiappini	gloria.chiappini@confagricoltura.it	Nov 30, 2020 at 11:00 AM	Italy
Thomas	Bartzanas	t.bartzanas@aua.gr	Nov 30, 2020 at 11:00 AM	Greece
Marko	lvanović	m arko88ivanovic@gm ail.com	Nov 30, 2020 at 11:00 AM	B&H



Day 2 - December 1st, 2020 - Food Industry



First Name	Last Name	Email	Date Attending	Country of origin
Dragan	Vujadinovic	draganvjd@gmail.com	Dec 1, 2020 at 11:00 AM	B&H
Mirjana	Beribaka	mirjana.beribaka@gmail.com	Dec 1, 2020 at 11:00 AM	B&H
Vivek	Babu Girija	vivek@mssrf.res.in	Dec 1, 2020 at 11:00 AM	India
Sara	Picone	sara.picone@art-er.it	Dec 1, 2020 at 11:00 AM	Italy
Rosana	Garcia	rosana.garcia@juntadeandalucia.es	Dec 1, 2020 at 11:00 AM	Spain
FRANCOIS	GROELL	f.groell@paca.chambagri.fr	Dec 1, 2020 at 11:00 AM	France
Juliette	Chauveau	jchauveau@ania.net	Dec 1, 2020 at 11:00 AM	France
Milan	Borojevíc	mikib@teol.net	Dec 1, 2020 at 11:00 AM	B&H
Fatima	Rojas Serrano	fatima.rojas@juntadeandalucia.es	Dec 1, 2020 at 11:00 AM	Spain
Mariana	Lorbach	marianab.lorbach@juntadeandalucia.es	Dec 1, 2020 at 11:00 AM	Spain
Merce	Boy Roura	merce.boy@uvic.cat	Dec 1, 2020 at 11:00 AM	Spain
hiba	hbiheb	hiba.hbiheb@e3pw.fr	Dec 1, 2020 at 11:00 AM	France
Tiana	Dzepina	tijana.cvijanovic@manja.ba	Dec 1, 2020 at 11:00 AM	B&H
sebastien	castegnaro	scastegnaro@nemetum.com	Dec 1, 2020 at 11:00 AM	France
Mylene	RAYNAUD	mlraynaud@maregionsud.fr	Dec 1, 2020 at 11:00 AM	France
Nebojsa	Vasiljevíc	neboj sa vasiljevic 96 @gmail.com	Dec 1, 2020 at 11:00 AM	в&н
Ljiljana	Vueklic	vukelic@prijedorcanka.com	Dec 1, 2020 at 11:00 AM	в&н
Melchor	Guzm´an Guerrero	melchor, guzman@juntadeandalucia.es	Dec 1, 2020 at 11:00 AM	Spain
Antonia	Cobacho Vargas	antonia.cobacho@juntadeandalucia.es	Dec 1, 2020 at 11:00 AM	Spain
FRANCISCO	GARCIA	FRANCISCO, GARCIA GA@ JUNTADEANDALUCIA ES	Dec 1, 2020 at 11:00 AM	Spain
Claire	Combre	claire.combre@critt-jaa-paca.com	Dec 1, 2020 at 11:00 AM	France
Ana	Mandíc	ana.mandic@aptf.sum.ba	Dec 1, 2020 at 11:00 AM	B&H
Dejan	šešlija	dejan.seslija@rars-msp.org	Dec 1, 2020 at 11:00 AM	в&н
JOSE ANTONIO	MAILLO	iosea, jimenez, maillo@iuntadeandalucia.es	Dec 1, 2020 at 11:00 AM	Spain
Sašsa	Boškovíc	sa sabosvet 71@gmail.com	Dec 1, 2020 at 11:00 AM	B&H
Samir	Savadi	samir.savadi@iuntadeandalucia.es	Dec 1, 2020 at 11:00 AM	Spain
Daniela	Sani	daniela, sani@art-er.it	Dec 1, 2020 at 11:00 AM	Italy
Juan José	De Leon Barca	iiose.leon@iuntadeandalucia.es	Dec 1, 2020 at 11:00 AM	Spain
Nadira	Berbíc	nadira.berbic@cener21.ba	Dec 1, 2020 at 11:00 AM	B&H
	GREGORI	ANDRE L GRE GORI @ZANARAVO.COM	Dec 1, 2020 at 11:00 AM	Slovenia
Кристина	Трипуновић		Dec 1, 2020 at 11:00 AM	B&H
Encarnacion	Martinez Navarro	encarnacion martinez n@juntadeandalucia es	Dec 1, 2020 at 11:00 AM	Snain
Cvril	Bertrand	cyril bertrand@critt-jaa-paca.com	Dec 1, 2020 at 11:00 AM	France
Marta	Campos	marta.campos@iuntadeandalucia.es	Dec 1, 2020 at 11:00 AM	Spain
Victor	Carbaial	victor, carbaial@uvic.cat	Dec 1, 2020 at 11:00 AM	Spain
lurica	Primorac	jurica primorac@antf sum ba	Dec 1, 2020 at 11:00 AM	в&н
Petra	Medved Diurašinovíc	netra.medved@gzs.si	Dec 1, 2020 at 11:00 AM	Slovenia
Миодраг	Поповић	micko 27@hotmail.com	Dec 1, 2020 at 11:00 AM	B&H
Fabio		fabio licciardello@unimore it	Dec 1, 2020 at 11:00 AM	Italy
Maurizio	Notarfonso	notarfonso@federalimentare.it	Dec 1, 2020 at 11:00 AM	Italy
Concha	Ávila	c.avila@fiab.es	Dec 1, 2020 at 11:00 AM	Spain
Thomas	Bartzanas	t. bartzanas@aua. gr	Dec 1, 2020 at 11:00 AM	Greece
Svetlana	Pelemiš	svetlana.nelemis@tfzv.ues.rs.ba	Dec 1, 2020 at 11:00 AM	B&H
Милан	Вукић	vukic88@gmail.com	Dec 1, 2020 at 11:00 AM	B&H
Slavko	Smilianić	slavkosm@gmail.com	Dec 1, 2020 at 11:00 AM	B&H
Jacques	Thebault	Jacques.THEBAULT@ct-ipc.com	Dec 1, 2020 at 11:00 AM	France
Deian	Bobar	bobardeian8@gmail.com	Dec 1, 2020 at 11:00 AM	B&H
Suzana	Likić	suzana likic@yahoo.com	Dec 1, 2020 at 11:00 AM	8&H
lelena	Madžarević	madzarevicielena@vaboo.com	Dec 1, 2020 at 11:00 AM	B&H
Tania	Milešić	milesictania@gmail.com	Dec 1, 2020 at 11:00 AM	B&H
Miliana	Perendija	miliananerendija68@gmail.com	Dec 1, 2020 at 11:00 AM	B&H
Emiliia	Simić	simicemilija32@vahoo.com	Dec 1, 2020 at 11:00 AM	B&H
Radmila	Tomić	tomic rada95@gmail.com	Dec 1, 2020 at 11:00 AM	B&H
Biliana	Vuković	blinkyc@gmail.com	Dec 1, 2020 at 11:00 AM	B&H
Tamara	Mutabdžija	tmutahdzija1112@gmail.com	Dec 1, 2020 at 11:00 AM	B&H
Marko	Ivanović	marka 28 ivano vic@mail.com	Dec 1, 2020 at 11:00 AM	B&H
Marko	rvario vic	marke optivatio victor giran. com	Dec 1, 2020 at 11:00 AM	DOL



Annex 5: EIP AGRI Infosheet

D Agricultural management (on site practice) to reduce plastic use and the contamination in the environment

Case study: Mulching films substitution with compostable/biodegradable materials – Interreg MED Reinwaste approach

Interreg MED Reinwaste project has faced the challenge of mulching films used in horticultural greenhouse production such as LDPE (low-density polyethylene), which are considered difficult-to-manage waste due to a high degree of degradation and the presence of dirt (vegetable waste and sand). Since high conditioning is needed, waste management companies may not accept them for being considered low profit, presenting risks of abandonment.

To face this problem, two types of biodegradable materials have been tested within Interreg Reinwaste project as available alternatives to conventional plastic mulching films (LDPE) in Andalucia horticultural sector:

1) A compostable mulching film (alternative 1). It has a commercial choice, ECOVIO[®] by BASF. It is a material certified as compostable and as in-soil-biodegradable. The extra cost derived from its use could be reduced as economies of scale develop, thus assuming a competitive advantage.

2) An in-soil biodegradable mulching film (alternative 2). This product, developed in H2020 BIOMULCH project for open-air strawberry, is not yet available on the market. It requires the addition of a kit of microorganisms and enzymes to facilitate their degradation, in addition to their incorporation into the soil using agricultural machinery.

Despite the fact that the LDPE presented greater resistance, both alternative materials have remained on the soil for almost 8 months of cultivation without suffering significant loss of integrity and offering similar performance to conventional LDPE mulching film. Therefore, alternative materials use would be technically viable. According to the sustainability analysis carried out, both alternatives (compostable, and biodegradable) show better results in the three sustainability dimensions (economic, social and environmental) than the conventional one.

Although overcosts of these alternatives still favor conventional materials for the overall profitability of farms, and the intrinsic product quality, other economic considerations, such as a better positioning and competitiveness in the market or diversification of economic activities show better behaviour of these alternatives. The social and mostly environmental dimensions are, without any doubt, better positioned for biodegradable and compostable alternatives. The potential of adoption of biodegradable mulch is higher than compostable mulch.





Top: Control areas in the first row of each type of mulch. From left to right: Ecovio (white), Biomulch (blue), LDPE (orange). Bottom: Mulch status on the 11/05/2020 (192 days after placement). Image source: IFAPA, Instituto de Formaccion y Investigaccion Agraria y Pesquiera – Junta de Andalucia, Interreg Med Reinwaste Project pilot activities.