



Project Acronym: PLAMINPACK

Project title: PLAnt-based antiMicrobial aNd circular PACKaging for plant product



Deliverable D6.5: Annual reports on Dissemination and outreach activities

Responsible beneficiary : ASU

Date of delivery: 30 June 2025 (M12)

Period covered by the Deliverable D6.5: from 01/07/2025 to 30/06/2025

Periodic period: 1st

Project name	PLAMINPACK
Work Package	Annual reports on Dissemination and outreach activities
Deliverable N°	6.5
Contractual Delivery	30/06/2025
Submission Date	30/06/2025
Dissemination Level:	Public

History of changes

Document version	Date	Changes introduced
V1	19/05/2025	First draft
V2	27/05/2025	Second draft: added draft text related to web site under construction
V3	27/06/2025	third draft discussed in the meeting of 27/06/ between UNIPi and ASU

Table of contents

1	INTRODUCTION.....	4
2	DISSEMINATION CHANNELS	5
2.1	Peer-reviewed publications:	5
2.2	Workshops:	6
2.3	Conferences:.....	6
2.4	Other dissemination activities.....	10
3	COMMUNICATION CHANNELS.....	12
3.1	Website:	12
3.2	Social media:.....	14
3.3	News and newsletters:	18
3.4	Educational activities:.....	19
4	OTHER PLANNED ACTIVITIES.....	20
5	COMPARISON WITH PLAN AND CONCLUSIONS	20

1 INTRODUCTION

The aim of this document is to report the activities of dissemination of PLAMINPACK project up to M12, so that they are periodically monitored and compared with the general scope and the specific goals described in the project proposal and in the deliverable D6.3 Plan for the Dissemination, Exploitation, Communication and Outreach (DECO).

An essential component of the PLAMINPACK project is the effective dissemination of its outcomes to both internal and external audiences, to make sure that the knowledge generated reaches a broad spectrum of key stakeholders, including academic peers, practitioners and the general public. It is also important to reach policymakers, to align PLAMINPACK innovations with policies that encourage the use of sustainable packaging materials and their recycling.

The present document describes the considered dissemination channels, such as peer-reviewed publications, workshops, presentations to conferences. Interestingly, a publication made in collaboration with all the consortium was published, thus allowing the scientific community to have a reference document about perishable wastes of the Mediterranean area.

In the communication channels, a dedicated project website was designed. It will host links to relevant PLAMINPACK resources and provide up-to-date content for diverse audiences. In addition to online presence, the project will utilize a variety of promotional materials—such as printed and digital brochures, posters, and videos— to effectively communicate project results to the project members and to the general public.

Social media and educational activities carried out by M12 are described in this document as activities addressed to new generation. Dissemination with students is crucial in promoting a culture of curiosity, critical thinking and innovation among the next generation. By integrating dedicated lessons into academic curricula, hosting webinars and organising interactive sessions at universities, the project ensures that its findings and methodologies are actively explored by students. These activities provide a unique opportunity to bridge the gap between research and education, inspiring students to engage with real-world challenges and equipping them with the tools to contribute effectively to the future of sustainable packaging research and manufacturing.

This strategy increases the project's reach and encourages not only real-time impact, but also long-term impact and a deeper understanding of PLAMINPACK solutions for the recovery and application of agricultural waste.

2 DISSEMINATION CHANNELS

Dissemination is aimed at sharing project results through targeted channels among defined audiences to encourage the adoption of PLAMINPACK solutions by key stakeholders.

2.1 Peer-reviewed publications:

During the first year of PLAMINPACK for the activities in WP1/WP2, it was essential to update the state of the art on which the project was based. Specifically, this involved assessing the availability of agricultural waste from fruit-bearing plants, exploring methodologies to valorise these materials for various applications, and reviewing the standards and regulations relevant to the Mediterranean region. Consequently, a comprehensive review was prepared by the entire consortium, who collaborated via the OneDrive platform using a draft file provided by the project coordinator and University of Pisa (UNIPi) staff.



Figure 1: Review published by the consortium in the “Materials” open access journal.

The abstract provides a concise summary of the study, highlighting the importance of agricultural waste valorization and the main strategies discussed. The Introduction sets the context by explaining the Mediterranean region’s agricultural waste problem and the need for sustainable solutions. Then the main Strategies for Waste Valorization are discussed: (1) Extraction: Discusses methods for obtaining valuable bioactive compounds from waste. (2) Composite Production: Explores how waste materials can be transformed into functional composites. (3) Bioconversion: Examines biological processes that convert waste into useful products. The discussion analyzes the effectiveness of these strategies and their potential applications. The efficiency Gains

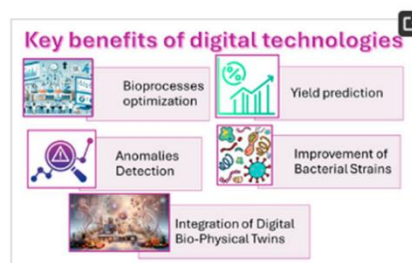


Figure 9. Key benefits provided by digital technologies.



Figure 10. Multidisciplinary approach of the valorization of Mediterranean fruit by-products and waste.

Through Digitalization are also described. Moreover, the conclusion summarizes key findings and suggests future research directions.

The PRIMA program was acknowledged as well as all the National Funding Entities.

In 2024, another publication was written on the structure of chitosan derived from *Hermetia illucens*. The data included in this work were collected during the preparation phase of PLAMINPACK by UNIPI and Università degli Studi della Basilicata (UNIBAS). Initially, the manuscript was submitted to Polymer Degradation and Stability, but it was deemed not fully aligned with the journal's focus. It was then sent to Polymer Testing, where the review process turned out to be quite lengthy. The paper was accepted with minor revision to be sent by July 7th 2025.

For 2025 other papers are planned, summarizing the findings of the project.

Key Performance Indicators (KPI) were monitored to evaluate the effectiveness of the dissemination activities. The findings for peer-reviewed publications can be found in table 1.

Table 1. KPIs for peer-reviewed publications (project month 1-12).

KPI target	Publications until month 12	KPI measurement	State of
≥ 7 (OA) publications by the end of the project	1 (OA) publication by the end of month 12: DOI: 10.3390/ma18071464	Zenodo: n.d <u>ResearchGate</u> : Citations: 1 Recommendations: 5 Reads: 198 <u>Google Scholar</u> : Citations: 2	2025/06/26
	1 (OA) publication submitted by 30.09.24, then 17.01.2025; accepted		2025/06/26

2.2 Workshops:

The organization of events to present the results of the project is planned for the second half of the project (KPI target: 2 workshops by the end of the project). This includes participation in third-party events, such as one-day industry seminars. The specific content and structure of the dedicated workshop are still in development, with planning ongoing to ensure alignment with project goals and relevance for target audiences.

2.3 Conferences:

As part of the PLAMINPACK project, partners actively participated in several high-profile scientific conferences to present and disseminate their research findings to international expert audiences.



Figure 2: PLAMINPACK dissemination activity at the 11th MODEST Conference in September 2024 in Palermo.

At the **11th conference of the Modification, Degradation, Stabilization of Polymers Society (MODEST) 2024 in Palermo** (Figure 2), Maria-Beatrice Coltelli (UNIFI) gave a presentation entitled *“Chitin and chitosan materials from black soldier fly (*Hermetia illucens*): an insight onto new perspectives of circularity”*, showcasing innovative approaches to biopolymer sourcing. She was also an invited speaker at the **4th International Biotechnology Congress 2024 in Marrakech** (Figure 3), where she delivered a **plenary oral presentation** titled *“Renewable, biodegradable and circular biosourced materials for functional packaging”*, emphasizing sustainable packaging solutions. Aouatif Aboudia (Université Cadi Ayyad, UCA) contributed with the *“Characterisation of biocompounds from agricultural wastes and their incorporation in coating formulations”* to the same congress as well as Anouar Mouhoub (UCA) who held a presentation focusing on *“Novel biodegradable coating based on chitosan and phenolic-rich extract from residual debris of strawberry plants to extend the shelf life of strawberries”*.



INVITED SPEAKERS

Session I : Impacts of climate change and biotic/abiotic constraints on agriculture and food sovereignty

- Bouchai Khadari, UMR AGAP Institut, CIRAD Montpellier, France : Trees Adaptation and Agriculture Resilience in the Mediterranean in the face of global warming: What are the innovations brought by genomic selection.
- Ahmed El Bakkali : INRA Meknes, Morocco : How can the diversity of olive genetic resources serve as a response to the challenges of adaptation to climate change? Crossing of approaches for sustainable olive growing of tomorrow.
- Cherki Ghoulam, AgroBiotech Center, URL-CNRST 05, Cadi Ayyad University, Morocco : What role for Nitrogen-fixing legumes in the agroecological transition under climate change?

Session II : Medical research and health sovereignty

- Mustafa Najimi, Catholic University of Louvain, Belgium: Biotechnologies for tomorrow's medicine: Stem cells and the treatment of liver diseases.
- Abdellah Soussi Gounni, University of Manitoba, Canada : Control of RSV infection by MMPs-mediated cleavage of RSV-G protein and its receptor CCR3.
- Mohammed El Mezgueldi, Aston University, Birmingham, United Kingdom : Pathogenesis of Genetic Cardiomyopathies : a multidisciplinary approach.

Session III : High-value biomolecules, bio-sourced products and bioenergy

- Maria Beatrice Coltelli, University of Pisa, Italy : Renewable, biodegradable, and circular bio-based materials for functional packaging.
- Oguzhan Gunduz, Marmara University, Istanbul, Turkey : Innovative 3D Printed PLA-Whey Protein Scaffolds: A Promising Strategy for Enhanced Wound Healing Applications.
- Khalid Bekkouche, AgroBiotech Center, URL-CNRST 05, Cadi Ayyad University, Marrakech, Morocco : The Moroccan Solanaceae as a potential source of high-value secondary metabolites

Figure 3: PLAMINPACK dissemination activity at the 4th International Biotechnology Congress in November 2024 in Marrakech.

At the **4th Coatings and Interfaces Online Conference 2025**, Maria-Beatrice Coltelli (UNIFI) contributed with a talk on *“Materials for protecting perishable products”*, while UCA’s Aouatif Aboudia presented *“Evaluation of the effect of chitosan-based coating enriched with Citrus agricultural waste extracts on fruits’ shelf life.”*

During the 3rd Conference on Green Chemistry and Sustainable Coatings (**GreenChemCo 2025**), a wide representation of PLAMINPACK partners participated (Figure 4): Maria-Beatrice Coltelli (UNIFI) presented *“Biocircular packaging approaches for preserving perishable fruits of the Mediterranean area”*; Julia Matthes (Albstadt-Sigmaringen University, ASU) delivered *“From waste to packaging: Valorizing waste and by-products from the agro-food industry for the development of antimicrobially active packaging materials”* and Noemi Cei (Next Technology Tecnotessile, NTT) presented a poster titled *“PLAMINPACK – Plant-based Antimicrobial and Circular Packaging for Plant Products”*. Abstracts of the presentations and posters can be found on the conference websites <https://www.greenchemco.it/program/> and <https://www.greenchemco.it/posters/> (last access 26.06.2025).

Further dissemination included the **MACROGIOVANI conference 2025** in Pisa with the presentation of the poster: *“PLAMINPACK – Plant-based Antimicrobial and Circular Packaging for Plant Products”* (Coltelli et al., Book of Abstracts available on the website: <https://www.aim.it/macrogiovani2025> last access 26.06.2025), and the **European Place Conference (PLACE) 2025** conference, where ASU presented a poster titled *“From chitin to chitosan: utilizing Tenebrio molitor across their developmental stages for packaging application.”*

The evaluation of the KPIs concerning Industry and Scientific conferences is shown in Table 2. So far, no contributions have been made to industry conferences or trade fairs. These are planned for a later stage in the project once sufficient know-how has been generated. Hence, this topic will be discussed at M12 meeting to select interesting events and to promote transfer of consortium know-how to stakeholders in the industry. Possible conferences to distribute PLAMINPACK knowledge are Pack-Ex 2026 or Fruit Logistica 2026 which take place in the 4th and 1st quarter of 2026.

Table 2. KPIs for conferences (project month 1-12)

KPI target	Conferences until month 12	KPI measurement	State of
Industry conferences Present at 2 major conferences	-	Record participation metrics (e.g., attendees at presentations) and engagement during Q&A sessions.	2025/06/26
Scientific conferences Present at 4 major conferences	Contributions to 6 conferences	Oral contributions: 8 Posters: 3	2025/06/26

2.4 Other dissemination activities

Beyond formal teaching and student-focused training, PLAMINPACK partners have actively participated in broader knowledge exchange and capacity-building events aimed at professional development and inter-project collaboration. On **October 23–24, 2024**, Maria-Beatrice Coltelli (UNIFI) attended the **PRIMA Project Day** in Barcelona (Figure 6), where she delivered a project pitch introducing PLAMINPACK to other coordinators. This event served as a hub for exchanging experiences, exploring synergies, and reinforcing collaboration within the PRIMA network. Later, on **November 22, 2024**, she also took part in a **networking on-line activity organized by the A-BLOCK project**, where she gave a 10-minute presentation to fellow PRIMA project participants, highlighting PLAMINPACK's objectives and potential areas for cooperation.



Figure 6: PLAMINPACK dissemination activity at the Prima Project Day in October 2024 in Barcelona.

Additionally, on **May 22, 2025**, Christian Cravotto (AgroParisTech, APT) contributed to a **networking session on European opportunities for young scientists** (Figure 7), providing insight into PLAMINPACK's research approach and encouraging young researchers to engage in cross-disciplinary, sustainability-driven innovation. These activities have strengthened the project's visibility, fostered dialogue across related initiatives, and supported early-career researchers in building European scientific networks.



Figure 7: PLAMINPACK dissemination activity at the networking session “European opportunities for young scientists” in May 2025.

Clustering and networking will play a strategic role in amplifying the reach and impact of the PLAMINPACK project throughout its implementation. The consortium will continue to actively engage in cross-project initiatives.

A crucial component of our dissemination activities within the project is the organization and conduct of **trainings** in the form of workshop-seminars. These workshop-seminars serve as a platform to share our findings with a wide range of stakeholders, including students, scientists, farmers, industry representatives, regional decision-makers, and various associations. As outlined in Deliverable 6.3, each partner is responsible for designing and organizing two workshops. The goal is to foster interdisciplinary collaboration and strengthen the transfer of knowledge among the participants. During the first 12 months of the project, several activities have already been successfully implemented, allowing us to disseminate initial results and receive valuable feedback from participants. This feedback is essential for steering the further development of the project in a targeted manner and ensuring the acceptance of the findings among stakeholders.

A training activity organized by UCA was the 4th International Congress of Biotechnology in Marrakech, Morocco focusing on sustainable food and medical sovereignty by using bioresources. The training session reached researchers, students and socio-economic partners (50 participants).

The University of Hohenheim (UHOH) organized the **New Foods Festival** – Food System Revolution in Stuttgart, highlighting the latest innovations and trends within the food industry. The event served as a platform for discussing new technologies, sustainable practices, and pioneering research that are shaping the future landscape of food production and distribution. In the frame of this event, Julia Senge (UHOH) contributed to this public science outreach through her presentation “*Naseweis: Elektronische Nase zur Bestimmung der Lebensmittelfrische*” which focused on digital twin technology along the food supply chain. The training was addressed to reach companies, food Start Ups, retailers as well as general public

3 COMMUNICATION CHANNELS

It is crucial to ensure that the direct beneficiaries of the project and the activities of the PLAMINPACK consortium are well-informed and engaged and that their awareness about PLAMINPACK is constantly increasing. Moreover, it is important to understand that some target groups are to be addressed in a different way. Communication needs to reach the appropriate target audience, using the most adequate channels. It is imperative to properly identify the preferred communication channels for each targeted audience.

3.1 Website:

The website of PLAMINPACK was elaborated by UNIP staff (with the professional support of SymantycWeb SME). The web site was projected: (1) considering the description reported in the section 2 of the project Consortium Agreement; (2)

considering the guidelines reported during the PRIMA project day in Barcelona (23-24/10/2024). The structure of the website follows the scheme reported in Figure 8.

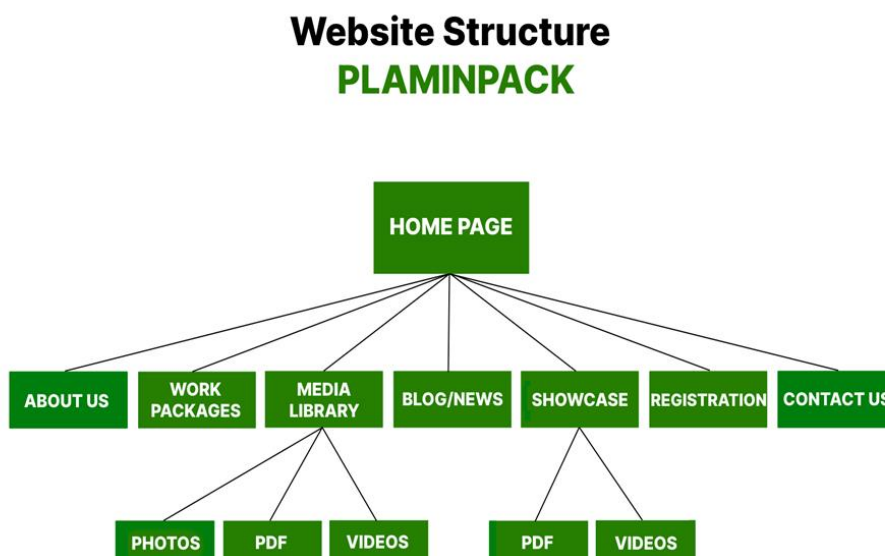


Figure 8: Scheme of the PLAMINPACK website.

The different pages of the website are briefly described here:

- **HOME PAGE:** A page composed of text, photos, and the latest blog articles and news.
- **ABOUT US:** A page composed of text, photos, and partner logos.
- **WORK PACKAGES:** A page composed of text with all the phases of the project.
- **MEDIA LIBRARY:** including categorized photos, editable PDFs, and photos that link to external videos via a hyperlink.
- **SHOWCASE:** it can include editable PDFs of results and photos that link to external videos via a hyperlink.
- **BLOG/NEWS:** it gives the possibility to create unlimited news articles composed of photos, title, date, and text.
- **REGISTRATION:** A form with about up to 10 editable fields.
- **CONTACT US:** A page composed of text with the contact details of responsible persons."

A simple and clear graphical style was chosen to convey a message of transparency and clarity, according with the scientific approach. The selected colours in agreement with PRIMA identity. The project's logo and title appear on every page to reinforce and leverage its visual identity.

On the homepage, a visual representation of the project highlights its biocircular nature, showcasing both the fruits and their respective plants. The reference to the word 'amin' (also included in the project's acronym) aims to create a strong emotional connection among the peoples of Mediterranean countries, drawing on their complex history and shared trust in nature and its processes.

The application of this trust to materials science is known as the biomimetic approach, although this term is generally more associated with the biomedical sector. It is hoped that, thanks to PLAMINPACK, this approach can be extended to a wider range of products.

In the ABOUT US page the description of the partners is reported. The demo version of the website was completed by June 2025 and will be revised by the consortium during the M12 meeting and in the following weeks, so that it is planned the definitive launch of the website in late July.

3.2 Social media:

To support the dissemination of the PLAMINPACK project beyond academic circles, several partners actively used social media platforms to share updates, publications, and project milestones with the broader public. On **October 15, 2024**, Maria-Beatrice Coltelli (UNIFI) published a LinkedIn post introducing the PLAMINPACK project, accompanied by a short summary and an image, engaging initial interest within her professional network. Later, on **March 26, 2025**, she shared a newly published scientific review article (*MDPI Materials*) across **LinkedIn, Facebook, and X (formerly Twitter)**, reaching audiences on multiple platforms with a focus on materials innovation and circular packaging. These posts received moderate engagement, including likes and impressions, highlighting growing interest in the project's research outputs. Similarly, **NTT** (Noemi Cei, Ilaria Canesi, Daniele Spinelli) shared a LinkedIn post on **July 8, 2024**, marking the official **kick-off of the PLAMINPACK project**, which was well received within their sustainability and innovation network. On **April 24, 2025**, Julia Senge (UHOH) further amplified the project's visibility through **Instagram**, sharing the same MDPI review article with a broader science outreach audience, generating notable engagement. These coordinated social media efforts played a key role in raising awareness of the project's goals, fostering public engagement, and enhancing visibility across both professional and general audiences.

Should follower growth or post engagement remain limited over time, the project partners plan to implement mitigation measures such as experimenting with more diverse content formats—like short videos, infographics, or interactive posts—increasing posting frequency, and coordinating closely with consortium partners to amplify reach across multiple channels. These steps aim to strengthen the project's online presence and engage a wider and more active audience.

Table 1: list of social media activities

DATE	PARTNER	NAME	SOCIAL	CONTENT OF THE POST	NUMBER OF	LINKS
------	---------	------	--------	------------------------	--------------	-------

					LIKES	
25/ 06/ 2024	UNIFI	MBEM Lab - UNIFI	LinkedIn	Post by the MBEM Lab, which also involves Prof. Beatrice Coltelli, about the start of the PLAMINPACK project.	12 likes	LinkedIn Post
07/ 08/ 2024	NTT	Noemi Ceï, Ilaria Canesi, Daniele Spinelli	LinkedIn	Kick-off of Plaminpack project	11 likes (29/05/20 25)	LinkedIn Post
30/ 09/ 2024	UNIFI	Maria- Beatrice Coltelli	LinkedIn	PLAMINPACK project presentation at MODEST conference 2024 in Palermo	2 likes	LinkedIn Post
01/ 10/ 2024	UHOH	Julia Senge	Homepage UHOH	Presentation of the project to the public, summary, project partners, logo etc		Recycable Packaging: Department of Food Informatics
15/ 10/ 2024	UNIFI	Maria- Beatrice Coltelli	LinkedIn	project PLAMINPACK, with summary and picture, inserted on coordinator profile	3 likes (17/10/20 24)	LinkedIn Post
30/ 01/ 2024	UNIFI	Maria- Beatrice Coltelli	LinkedIn	Presentation of PLAMINPACK project at the	17 likes	LinkedIn Post

				PRIMA Project Day in Barcelona		
26/03/2025	UNIFI	Maria-Beatrice Coltelli	LinkedIn	review: https://www.mdpi.com/1996-1944/18/7/1464	3 likes (28/03/2025)	LinkedIn Post
26/03/2025	UNIFI	Maria-Beatrice Coltelli	Facebook	review: https://www.mdpi.com/1996-1944/18/7/1464	2 likes (28/03/2025)	Facebook Post
26/03/2025	UNIFI	Maria-Beatrice Coltelli	X	review: https://www.mdpi.com/1996-1944/18/7/1464	11 likes (28/03/2025)	X Post
30/03/2025	UNIFI	Maria-Beatrice Coltelli	LinkedIn	Repost of a Post by Florent Allais about the paper "Transforming Agricultural Waste from Mediterranean Fruits into Renewable Materials and Products with a Circular and Digital Approach"	38 likes, 4 diffusions	LinkedIn Post
30/03/2025	UNIFI	Maria-Beatrice Coltelli	LinkedIn	Diffusion of a post regarding educational dissemination of PLAMINPACK project by Christian Cravotto	1 like	LinkedIn Post

04/ 2025	ASU	Julia Matthes	Homepage ASU	Presentation of the project to the public; summary, project partners, logo etc		https://www.hs- albsig.de/fo rschungsdet ailseite/pla minpack/
24/ 04/ 2025	UHOH	Julia Senge	Instagram	review: https://www.md pi.com/1996- 1944/18/7/1464	23 likes	Instagram Post
30/ 04/ 2025	UNIPi	Maria- Beatrice Coltelli	LinkedIn	Re-post of the paper "Transforming Agricultural Waste from Mediterranean Fruits into Renewable Materials and Products with a Circular and Digital Approach"	1 like	https://ww w.linkedin.c om/posts/a ctivity- 731600607 125118156 8- 94RN?utm source=shar e&utm me dium=mem ber_deskto p&rcm=ACo AAFEcl- YBr9bl7OCX A5e9GhJ6vg GGX7Mw9 QE
30/ 05/ 2025	UNIPi	Maria- Beatrice Coltelli	LinkedIn	Re-post of the paper "Transforming Agricultural Waste from Mediterranean Fruits into Renewable	2 likes	Linkedin Post

				Materials and Products with a Circular and Digital Approach"		
30/05/2025	UNIFI	Maria-Beatrice Coltelli	LinkedIn	PLAMINPACK poster presentation at MACROGIOVANI 2025	25 likes	LinkedIn Post
18/06/2025	NTT	Noemi Cei	LinkedIn	GreenChemCo Conference 2025: presentation of the project at the poster session	66 likes, 1 diffusion	LinkedIn Post
18/06/2025	UNIFI	Maria-Beatrice Coltelli	LinkedIn	PLAMINPACK project presentation at GreenChemCo Conference 2025 in Pisa	31 likes, 3 diffusions	LinkedIn Post

ASU and the UHOH also created a project detail page on their respective university websites to provide information about the PLAMINPACK project (<https://www.hs-albsig.de/forschungsdetailseite/plaminpack/> [Recyclable Packaging: Department of Food Informatics](#)).

3.3 News and newsletters:

Up to M12 the communication related to PLAMINPACK was carried out by social media and through the Institutions websites. For instance, short article was published on the Department of Civil and Industrial Engineering of UNIFI entitled "Incarti per alimenti ricavati da scarti agricoli di fragole, datteri e mandarini. Ha preso il via il progetto PLAMINPACK, coordinato dal DICI" (<https://www.dici.unifi.it/news/incarti-alimenti-ricavati-da-scarti-agricoli-di-fragole-datteri-e-mandarini-ha-preso-il-il>), to summarize the goals and main features of the project.

The PLAMINPACK newsletter campaign is scheduled to launch from **Month 18** of the project. These newsletters will serve as a key communication tool to regularly inform stakeholders, industry representatives, and the broader public about project progress,

research highlights, upcoming events, and dissemination outputs. Distribution will take place via the project website and direct outreach to relevant stakeholders through mailing lists curated by consortium partners. This initiative aims to strengthen engagement, foster knowledge exchange, and ensure that key developments within the project reach a wide and targeted audience.

3.4 Educational activities:

Educational activities are an integral part of the PLAMINPACK project, with key findings and methodologies being incorporated into university-level teaching at partner institutions. This ensures that students in relevant fields — such as material science, biotechnology, food microbiology, and sustainable packaging — gain early exposure to cutting-edge research and real-world applications.

In addition to integration into academic curricula, the project also plans to produce **educational videos** aimed at a broader audience, including students, young researchers, and industry professionals. These videos will explain project goals, technologies, and results in an accessible and engaging format. The production of these videos will start in the second project year. They will be distributed via the project website. A potential challenge in this area could be lower-than-expected video views or watch times. To address this, the consortium will **reassess the distribution strategy by month 24**, increase promotion efforts on social media and encourage all partner organizations to actively share the content through their own networks. These actions will help maximize visibility and educational impact.

On **March 14, 2025**, APT (Morad Chadni and Christian Cravotto) conducted a **half-day training seminar** for students from the **Université de Reims Champagne-Ardenne (URCA)**, focusing on innovative extraction and purification techniques relevant to WP1. A similar **educational outreach session** was held on **June 2, 2025 (Figure 9)**, with senior students from **College Raymond Sirot**, introducing them to the principles of biobased materials and sustainable packaging.

Furthermore, on **May 19, 2025**, Christian Krupitzer (UHOH) presented a lecture titled *“Digital Food Twins – Concept, Use Cases, Potential”* at the **Research Seminar on Food Chemistry and Food Quality** hosted by TU Munich, providing insights into the digital monitoring of food quality and its alignment with WP4 objectives.

As part of the course "Insect Biotechnologies" offered in the Biotechnology bachelor degree program at the University of Basilicata (UNIBAS), a seminar entitled "Insects as key players in the circular economy" was delivered. During the session, students were introduced to the potential of insects as a sustainable source of chitin and chitosan for the production of eco-friendly packaging. The seminar also focused on the activities currently being carried out by the University of Basilicata within the framework of the PLAMINPACK project.

These teaching activities underline the project's strong educational component and its commitment to fostering the next generation of scientists and professionals in sustainable food and packaging systems.



Figure 9: PLAMINPACK educational activity. Half-day seminar with College Raymond Sirot students (5 and 6^e year) in June 2025.

4 OTHER PLANNED ACTIVITIES

To ensure the effectiveness of PLAMINPACK's outreach efforts, KPI data will be reviewed every six months. This review will identify trends, measure progress against targets, and inform necessary adjustments for both communication and dissemination activities. The following outlines the approaches for each type of activity, the potential challenges and mitigation measures.

5 COMPARISON WITH PLAN AND CONCLUSIONS

The dissemination and exploitation activities of PLAMINPACK are progressing and remain aligned with the initial objectives outlined in the DECO Plan (D6.3). Events are planned to ensure effective knowledge sharing and impact generation across scientific, industrial, and societal spheres. The open and collaborative dissemination strategy — designed to engage diverse stakeholders including researchers, industry actors, farmers, bioeconomy networks, and policy makers — has proven effective in promoting visibility and cross-sector engagement. Participation in high-profile conferences, clustering with related EU-funded projects, and the early development of an exploitation plan, including patenting and business modelling, demonstrate the consortium's proactive commitment to long-term impact and sustainability of results. These efforts, supported by a strong RRI and Open Science approach, provide a solid foundation for the continuation and amplification of outcomes beyond the project's lifetime.

6 REFERENCES

Castagna, A.; Aboudia, A.; Guendouz, A.; Scieuzo, C.; Falabella, P.; Matthes, J.; Schmid, M.; Drissner, D.; Allais, F.; Chadni, M.; Cravotto, C., Senge, J.; Krupitzer, C.; Canesi, I.; Spinelli, D.; Drira, F.; Ben Hlima, H.; Abdelkafi, S.; Konstantinou, I.; Albanis, T.; Yfanti, P.; Lekka, M. E.; Lazzeri, A.; Aliotta, L.; Gigante, V. and Coltelli, M.-B. Transforming Agricultural Waste from Mediterranean Fruits into Renewable Materials and Products with a Circular and Digital Approach. *Materials* **2025**, *18*, 1464. <https://doi.org/10.3390/ma18071464>

7 ANNEX 1. DISSEMINATION HUB

Papers on journals

date	partners	authors	title	journal	volume, issue, pages	links or DOI	open access?Gold?	link to WP?
spring 2025	UNIFI and UNIBAS	Maria Beatrice Cotelli, Vito Gigante, Luca Panariello, Laura Alotta, Carmen Sciuozzo, Patrizia Falabella and Andrea Lazzari	Chitin and chitosan materials from black soldier fly (<i>Hermetia illucens</i>): an insight onto their thermal degradation and mechanical behavior linked to their copolymeric structure	Polymer Degradation and Stability, then to Polymer Testing			gold open access (hybrid journal)	WP1/WP2 submitted by 30-09-24, then to Polymer Testing on 17/01/2025. Acceptance with minor revision
26/03/2025	all	by Antonella Castagna, Aouaf Aboudia, Amine Guerrouz, Amine Guerrouz, Carmen Sciuozzo, Patrizia Falabella, Julia Matthes, Markus Schmid, David Drissner, Florent Allais, Morad Chadni, Christian Cravotto, Julia Serge, Christian Krupitzer, Iaria Canesi, Daniele Spinelli, Fadous Dina Hager Ben Himia, Slim Abdelkafi, Ioannis Konstantinou, Triantafyllos Albanis, Paraskevi Yfanti, Mariena E. Lekka, Andrea Lazzari, Laura Alotta, Vito Gigante and Maria Beatrice Cotelli	Transforming Agricultural Waste from Mediterranean Fruits into Renewable Materials and Products with a Circular and Digital Approach	Materials	Materials 2025, 19(7), 1464 doi.org/10.3390/ma19071464		gold open access	WP1/WP2 submitted on 07 october 2024

Congresses and fairs

09/04/2024	UNIFI	Maria Beatrice Cotelli	11th conference of the Modification, Degradation, Stabilization of Polymers Society (MODEST) 2024, Palermo, Italy	WP2	abstract published in acts, access to publication on PDST (see papers table)	50 people
15/11/2024	UNIFI	Maria Beatrice Cotelli	4th International Biotechnology Congress - 14-17 november 2024, Marrakech, Morocco	WP3	abstract published in acts (on paper)	50 people
21-23/05/2025	UNIFI	Aouaf Aboudia	4th Coatings and Interfaces Online Conference	WP3	abstract published in acts (elect 100)	
16-17 june	UNIFI	Maria Beatrice Cotelli	greenchemco 2025	overview, WP1 and WP2	abstract approved	
17-giu-25	NTT	Noem Cei, Iaria Canesi	greenchemco 2025	general	abstract accepted	
16-17 june	ASU	Julia Matthes	greenchemco 2025	WP2	abstract accepted	
25-28 May	UNIFI	Maria Beatrice Cotelli	MACROGIOVANI	general	abstract published in acts (electronic pdf)	
06-mar-25	UHOH	Julia Serge	New Foods Festival	WP3	presentation entitled: „Zukunft ohne Verschwendung. Wie digitale	
05-06-25	UHOH	Julia Serge	Open Day University of Hohenheim	WP3	Poster: From chitin to chitosan, utilizing Tenebrio molitor across the	presented
26-05-2025	ASU	Max Sturm, Kristina Eidenberger, Anni Place	2025	WP2		120

Social Media

See Table 1

Teaching and training

date	partners	authors	title	method	number of participants	links	pictures
19-mag	UHOH	Christian Krupitzer	Presentation on "Digital Food Twins - Concept, Use Cases, Potential" in the Research Seminar Food Chemistry and Food Quality @ TU Munich	WP4	30	https://www.is.tum.de/en/is/public-relations/events/event-detail/article/research-seminar-food-chemistry-and-food-quality https://www.linkedin.com/posts/christian-cravotto-76b03021b-extraction-purification-plaminpack-activity-	
14/03/2025	APT	Morad Chadni, Christian Cravotto	Half-day training seminar with Université de Reims Champagne-Ardenne (URCA) students	WP1	15		Folder: Training APT - february 2025
06/02/2025	APT	Morad Chadni, Christian Cravotto	Half-day seminar with College Raymond Sirot students (5 and 6 th year)	WP1	27		
06/10/2025	APT	Morad Chadni, Christian Cravotto	1 st visit with College de Bazancourt (4 and 5 th year)	WP1	15		
May 2025	UNIBAS	Patrizia Falabella	As part of the course "Insect Biotechnologies"	WP1	44		



Others

date	partner	name	description of event	links	pictures
23-24/10/2024	UNIFI	Maria-Beatrice Coltell	PRIMA project Day	https://prima-med.org/prima-project-day-2024-hub-of-synergies-in-barcelona/#~:text=PRIMA%20Pro	pitch to present PLAMINPACK to other coordinators. Exchange of information and networking presentation of 10 minutes to partners of A-BLOCK project and to other attendees from other PRIMA projects
22/11/2024	UNIFI	Maria-Beatrice Coltell	networking activity: A-Block project	https://www.linkedin.com/posts/guisenbetul-aktas_ablock-prima-collaboration-activity-727040248338	
22/06/2025	APT	Christian Cravotto	networking session: European opportunities for young scientists' research	https://urd-abi-agroparistech.com/Communications/	
45815	UOI	Ioannis Constantinou	dissemination of the project in the open audience (at the local level) in Greek language and the title topic of the one-evening activity (after free translation) was "Ways Out of deadlocks of the Primary Production Sector"		

Short papers/ alerts

date	partners	name	website	language	content of the paper	links	other notes
31/10/2024	UNIFI	Maria-Beatrice Coltell	https://www.dici.unifi.it/italian		general explanation of the Project	https://www.dici.unifi.it/news/incarti-alimenti-ricavati-da-scarti-agricoli-di-fragole-datteri-e-mandarini-ha-preso-il-l	