

Universidad
Politécnica
de Cartagena



COMPOSTER PROJECT

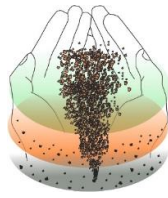
Training (24th-25th of October)

**in the framework of the Cooperation partnership in
Vocational Education and Training**

**“Encouraging young farmers to produce compost for
healthy soil and organic food using innovative solutions.”**

Training Report

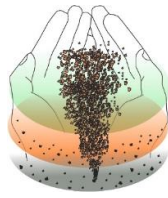
December 2023



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1. Introduction

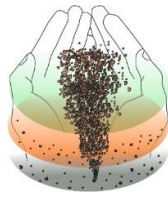
1.1 Training program scheduled topics:

The training program for the Composter Project spanned two days, commencing on the 24th of October 2023. The first day involved a visit to the 56th edition of the "Livestock, Industrial and Food Fair of Lorca (SEPOR)" from 16:00 to 20:00. Participants had the opportunity to explore the fair, gaining insights into various aspects of livestock, industry, and food production. On the second day, scheduled for the 25th of October 2023, the training shifted to an online format. This day encompassed virtual sessions, likely covering specific aspects of the Composter Project, followed by field visits to enhance practical understanding. The combination of on-site exploration and virtual learning aimed to provide a comprehensive and immersive training experience for participants.

1st Day: 24th October 2023, 16-20h: Visiting the 56th edition of the “Livestock, Industrial and Food Fair of Lorca (SEPOR)”:

Assistance to different presentations of the environmental journey organized by the coordinator of the project UPCT Prof. Dr. Ángel Faz Cano
Poster participation: “Encouraging young farmers to produce compost for healthy soil and organic food using innovative solutions.”



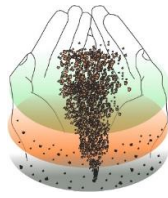


SEPOR Program

Organization team: GARS-UPCT

Conference Coordinator. Angel Faz Cano. Head of the Soil and Water Management, Use and Recovery Research Group, Polytechnic University of Cartagena (GARS-UPCT).

- 17:00-17:10** One hundred and fifty livestock families. From a problem to an opportunity.
Speaker: Mr. Jordi Jové, President of the Alcarrás Bioproductors Association.
Ms. Eugenia Requena Robles, Technician at the Alcarrás Bioproductors plant.
- 17:10-17:40** Valorization and acidification of slurry, a global solution for farm, pond, and field.
Speakers: Mr. Juan López Plumed. Agronomic Engineer, CEO of Agointelligent.
Mr. Juan Luis Mari Armelles. Agronomic Engineer, Fertinagro Specialist.
- 17:40-18:00** Valorization of agri-food waste to contribute to animal health.
Speaker: Dr. Rocío Facorro Souto, R&D+i Manager at i-Grape Laboratory.
Dr. María Celeiro Montero, Project Manager at NeoGiANT.
- 18:00-18:20** Zero waste. An achievable goal for livestock farms.
Speaker: Mr. Antonio García Hernández. Plant Manager at Biostop S.L.
- 18:20-18:35** Compostaje de subproductos ganaderos como herramienta agrícola y ambiental. Composter.
Speaker: Ms. Melisa Gomez Garrido. Researcher Soil and Water Management, Use and Recovery Research Group, Polytechnic University of Cartagena (GARS-UPCT).
- 18:20-20:00** Round Table: Environmental challenges in livestock companies. Experiences in the implementation of ECOGAN.
- Ms. Isabel M^a Fernández Bastida. Sustainability and Environment Manager at CEFUSA (Fuertes Group).
 - Ms. Rosa Gallart Arenal. Agronomic Engineer and Environmental Advisor of the Porcine Sanitation Group of Lleida.
 - Dr. Manuel Toledo Castillo. Production Manager at Grupo Francés.
 - Mr. Jorge Ibernón Fernández. Head of the Environmental Management and Discipline Service at CARM, MAPA.



2nd Day: 25th October 2023 Online training + Different field visits

Online training

9:30-10:00h Welcome and start, and summary of Composter Project
*Coordinator of the project UPCT Prof. Dr. Ángel Faz Cano,
Technical University of Cartagena*

10:00-10:30h “Livestock registration of pig slurry-Manure Management (REMODEGA) and Agronomic Valuation of pig slurry-Manure (VALOAGRO).”

PhD. José Gregorio Cuevas (UPCT).

10:30-11:00h “Successful management of livestock by-products and urban waste through composting”.

PhD. Prof. María Dolores Gómez López (UPCT).

11:00-11:30h "Optimizing Pig Slurry Management through Decision Support Systems in Agricultural Resource Development (ARD)".

PhD. Angélica Terrero Turbí (UPCT).

11:30-11:35h “Concluding remarks and closing”.

Presential different field visits

12:30- 13:30 CIFEA, Torre Pacheco.

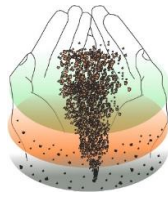
14:00h-15:30: Lunch

16:00h-17:00 Manure composting plant “**Retorna del Sur**”.
Av. Baltasar Garzón, N°10, Bajo, 30700 Torre-Pacheco, Murcia

2. Objective

The primary objective of the Composter Project training was to equip participants with a comprehensive understanding of composting processes and techniques, particularly in the context of agricultural and food production. The visit to the "Livestock, Industrial and Food Fair of Lorca (SEPOR)" on the first day aimed to expose participants to real-world applications and innovations in the fields of livestock, industry, and food. The online training and subsequent field visits on the second day were designed to delve deeper into the intricacies of composting methods





relevant to the project. By combining theoretical knowledge with practical experiences, the training sought to empower participants with the necessary skills and insights to contribute effectively to the success of the Composter Project. Overall, the training aimed to foster a well-rounded understanding of composting practices and their potential applications in sustainable agriculture and waste management.

3. Material of the project training:

The training organized by the Universidad Politécnica de Cartagena (UPCT) for the COMPOSTER project was meticulously designed to encompass a variety of activities, providing participants with a holistic understanding of compost production.

The research group Garsa, spearheading the training for the COMPOSTER project, has diligently crafted comprehensive training materials to ensure an effective and engaging learning experience for participants. The package includes a participant registration form, a detailed program outline, a registration link for seamless enrollment, and strategies for organizing both in-person and online training sessions, along with field visits. Additionally, a mechanism for collecting valuable feedback from participants has been integrated into the training structure.

Please find the training program in *annex 1*.

3.1 Registration process

A webinar registration platform designed for efficient participant information collection, was established using Jotform.com. The registration link for the webinars was crafted as follows:

<https://form.jotform.com/232882583253361>

COMPOSTER PROJECT
Co-funded by the Erasmus+ Programme of the European Union

"Encouraging young farmers to produce compost for healthy soil and organic food using innovative solutions."

Training days : 24th and 25th of October 2023.

in the framework of the Cooperation partnership in Vocational Education and Training.

Programme summary:

- 24th October 16:00-20:00: 56th Edition of the "Livestock, industrial and food fair of Lorca (SEPOR) (online or presential).
- 25th October
 - 9:30-11:30 Project training and composting (online).
 - 12:00-18:00: Different field visits (presential).

Registration Form
Fill out the form carefully for registration

Participant Name

First Name Middle Name Last Name

Birth Date Gender

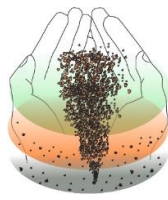
Month Day Year Please Select

Address

Street Address

Street Address Line 2

City State / Province



This link was actively disseminated across email distributions, and direct invitations, strategically employed to boost registrations. The primary focus of this outreach was to engage a specific audience, targeting students and farmers. These two groups were identified based on the research work conducted, leveraging insights from previous surveys and incorporating new inquiries to ensure the training materials align precisely with the needs and experiences of the intended participants. This targeted approach was aimed at enhancing the relevance of the webinars and maximizing the impact of the training content on the knowledge and skills of the participants.

Through the Jotform.com registration template and link <https://form.jotform.com/222782875253363>, we successfully collected registrations from 28 participants.

*Please find in the participants registration by jotform.com in **annex 2**.*

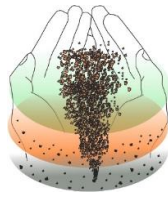
3.2 Platform for the webinar

Microsoft Teams served as the platform for both live streaming and recording, facilitating a dual functionality for immediate participation and later viewing. The recorded videos became integral components of the training materials, ensuring that participants had the flexibility to engage with the content in real-time or access it at their convenience. This approach not only enabled a dynamic and interactive learning experience during live sessions but also provided a valuable resource for participants to revisit and reinforce their understanding of the training content. The utilization of Microsoft Teams contributed to the versatility and accessibility of the training materials, enhancing the overall effectiveness of the learning initiative.

1st Day: 24th October 2023, 16-20h: Visiting the 56th edition of the “Livestock, Industrial and Food Fair of Lorca (SEPOR)”

The training on the first day, October 24, 2023, from 16:00 to 20:00 was conducted through a dual approach—presential and online modes via Microsoft Teams. This innovative strategy allowed participants to choose between physically attending the fair for hands-on experience and insights or joining virtually through Microsoft Teams for





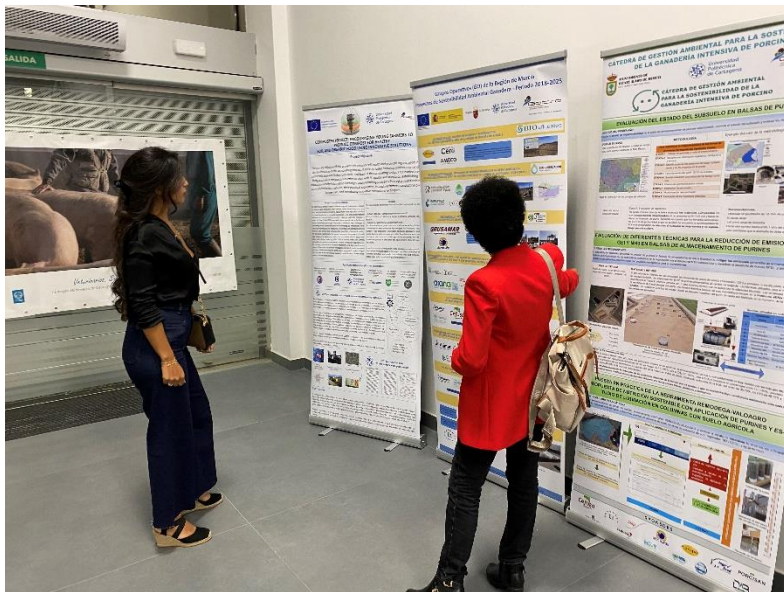
remote participation. The online mode facilitated real-time engagement and interaction for those unable to attend in person. A presentation specifically focused on the Composter Project was delivered. This presentation likely covered key aspects of the project, its objectives, methodologies, and relevance to the broader context of composting practices.

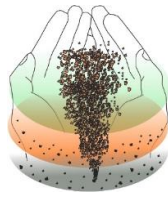


*Please find more Fotos and recorded video of the training in **annex 3**.*

On the same day, as part of the training activities, a significant promotional effort was made by placing a Composter Project poster within the SEPOR conference journey.

*Please find the poster in **annex 4**.*





Participants list: Please find the participants list in annex 5.

COMPOSTER PROJECT
Training October 24th, 2023. Lorca, Murcia, Spain.

LIST OF ATTENDANCE "Encouraging young farmers to produce compost for healthy soil and organic food using innovative solutions"

Name	Last name	Institution/University
OURAÏHA	EL BIED	UPCT ouraima.elbied@gmail.com
JACINTO	MARTÍNEZ	UPCT JACINTO.MARTINEZ@UPCT.ES
SOAL MOHAMED	BOUCHEM MDAINI	UPCT - mohamed.mdaini@edu.upct.es
SALMA	SAUSSI	UTM Tunisia - salma.sausi@fet.utms.tn
RAOUÏA	CHATHI	UTM Tunisia - chathimacaria@gmail.com
ASSIA ASSIA	MAAOUÏ	UTM Tunisia - maaouïssa.002@gmail.com
Angelica Tero	TORERO	UPCT - angelica.terero@upct.es
Luz Corder	Beltic resillo	UPCT - lucabltic@upct.es
MELISA	GÓMEZ GARRIDO	UPCT melisa.gomez@upct.es
AUCIA	MARCOS CORONADO	UPCT alic.morja@upct.es
ELENA	SAMPER PEREL	UPCT - elena.samper@upct.es
MIRIAM	VALEROE VANDAYA	UPCT - miriam.valverde@upct.es
JOSE DEBERAS	A COSTA AVILÉS	UPCT - ja.acosta@upct.es
VIRGINIA	SÁNCHEZ NAVARRO	UPCT - virginia.sanchez@upct.es
Cristina	García Hernandez	UPCT - cristina.garcia2@upct.es

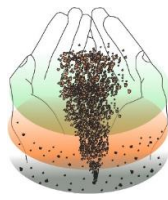
JORGE	BRETÓN SUBRADO	UPCT
Jose Luis	Beltic Garcia	Cefusa
ANNA LOPEZ	MAQUEDA	ADESPOFA
JOSE MORALES	GARCIA CORTES	ADESPOFA
SARAH	CRUZ GUERRERO	ADESPOFA
MATEOSA	FERNANDEZ SUAREZ	RETORNA DEL SUP
MELISA	GÓMEZ GARRIDO	UPCT
ISABEL MORA	FERNÁNDEZ BASTIDA	CEFUSA
JORGE	IBRAHIM FERNANDEZ	D ^o de Medio Ambiente C.A.R.H.
VICTORIA	GUTON MADIN	CEFUSA
Acegal Ramon	Meca Muela	Agrupamiento de Lorca
Rafael	Bruce Sanchez	Cirabank
Yuan Pedro	Vela Martinez	Carim
Ahmed	Lotario Pérez	Carim
Georgy	Alexis Lente	Carim
Jul	Fabrizio	UPCI

COMPOSTER PROJECT
Training October 24th, 2023. Lorca, Murcia, Spain.

LIST OF ATTENDANCE "Encouraging young farmers to produce compost for healthy soil and organic food using innovative solutions"

Name	Last name	Institution/University
M. Dolores Garcia Lopez	Gomez Lopez	UPCT doloresgarcia@upct.es
Salma	EL BIED	UPCT ELBied.selfmara@gmail.com

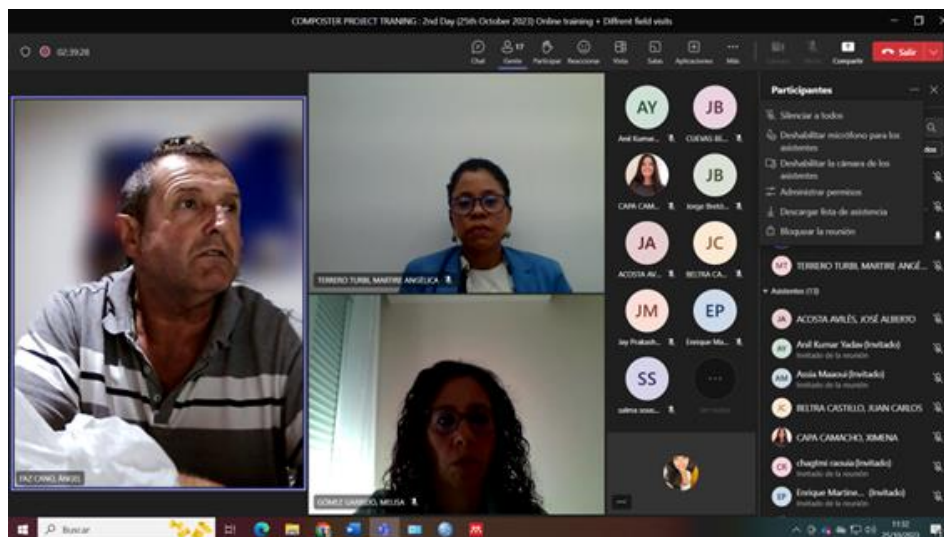


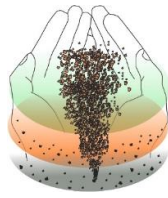


2nd Day: 25th October 2023 Online training + Different field visits

Online training

The agenda for the event commenced at 9:30 with a warm welcome and an introduction to the Composter Project, presented by the project coordinator, Prof. Dr. Ángel Faz Cano from the Technical University of Cartagena (UPCT). Following this, from 10:00 to 10:30, PhD. José Gregorio Cuevas (UPCT) delved into the topics of "Livestock Registration of Pig Slurry-Manure Management (REMODEGA)" and "Agronomic Valuation of Pig Slurry-Manure (VALOAGRO)." Subsequently, from 10:30 to 11:00, PhD. Prof. María Dolores Gómez López (UPCT) shared insights on the "Successful Management of Livestock By-Products and Urban Waste Through Composting." The session continued with a presentation on "Optimizing Pig Slurry Management Through Decision Support Systems in Agricultural Resource Development (ARD)" by PhD. Angélica Terrero Turbí (UPCT) from 11:00 to 11:30. The event concluded with a concise summarization and closing remarks at 11:30 by an unidentified speaker. The diverse range of topics covered throughout the morning sessions provided a comprehensive overview of the Composter Project and its various facets, offering valuable insights to the participants.





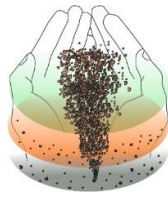
Please find more Fotos and recorded video of the training activity in **annex 6**.

Presential different field visits

The program for the different field visits was structured as follows: Commencing at 12:30, participants visited CIFEA in Torre Pacheco, providing them with an opportunity to gain insights into specific aspects of the agricultural and farming sector. The visit aimed to deliver firsthand experience and practical knowledge related to the themes discussed in the earlier sessions. Subsequent to the visit, there was a lunch break from 14:00 to 15:30, allowing participants to network and discuss their observations.





At 16:00, the program resumed with a visit to the Manure Composting Plant "Retorna del Sur," situated at Av. Baltasar Garzón, N°10, Bajo, 30700 Torre-Pacheco, Murcia. This site visit aimed to provide a detailed understanding of composting processes and techniques in a real-world setting. Participants had the opportunity to witness the operational aspects of the composting facility, enhancing their practical knowledge. The structured field visits offered a valuable extension to the theoretical components covered earlier in the day, ensuring a comprehensive and immersive learning experience for all participants.











Please find more Fotos in annex 7.

Participants list: Please find the participants list in annex 8.

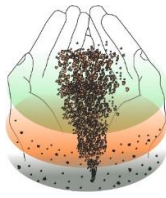


COMPOSTER PROJECT
 Training October 25th, 2023. Field visits. Cartagena, Murcia. Spain.
 


LIST OF ATTENDANCE "Encouraging young farmers to produce compost for healthy soil and organic food using innovative solutions"

Name	Last name	Institution/University
OUHAÏAN	EL BIED	UPCT - ouhaian.elbied@gmail.com
JACINTO	MARTINEZ	UPCT - jacinto.martinez@upct.es
Sou Salma	Salma Soussi	UPCT - sou.salma@upct.es
MOHAMED	MDAINI	UPCT - mohamed.mdaini@edu.upct.es
SALMA	SOUSSE	UTM Tunisia - salma.soussi@fst.utm.tn
RAOUÏA	CHAGMI	UTM Tunisia - chagmi.raouia@ymail.com
ASSIA ASSIA	MAABUZ	UTM Tunisia - maabuz.assia.002@gmail.com
Angeliza	TORRERO	UPCT - angelica.torrero@upct.es
Juan Carlos	Beltre Castille	UPCT - Juan.beltre@upct.es
MELISA	GOMEZ GARRIDO	UPCT - melisa.gomez@upct.es
ALICIA	MORUGÁN CORONADO	UPCT - alicia.moruga@upct.es
ELENA	SAMPER PÉREZ	UPCT - ebera.semper@upct.es
MIRIAM	VALVERDE LÓPEZ	UPCT - miriam.valverde@upct.es
SUSE ALBERTO	AGOSTO QUILES	UPCT - ja.agosto@upct.es
VIRGINIA	SOLUCHE NAVARRO	UPCT - virginia.soluche@upct.es
CRISTINA	Cristina Hernandez	UPCT - cristina.hernandez@upct.es
Ms Dolores	Gomez Lopez	UPCT - lola.gomez@upct.es





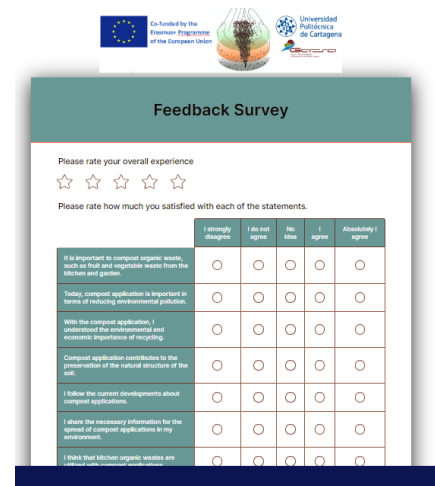
COMPOSTER PROJECT
Training October 25th, 2023. Field visits. Cartagena, Murcia. Spain.

LIST OF ATTENDANCE "Encouraging young farmers to produce compost for healthy soil and organic food using innovative solutions"

Name	Last name	Institution/University
Pedro Antonio	Martinez Garcia	CIFEA (T. PACHECO) Pedro.martinez16@car.m.es
JOSÉ ANDRÉS	GARCÍA GARCÍA	ADAPTA (garcia@adapta.com)
Juan Lorenzo	Sot Garcia	Conceja. Fuen & Alamo.
Ms TERESA FERNANDEZ SUAREZ	FERNANDEZ SUAREZ	teresa.fernandezsuarez@gmail.com
TERUJO	BALLEGER ROS	TERUJO.RETORNO@ELNOD6HOST.COM
Salma	EL Bied	UPCT.

4. Participants and Feedback:

The evaluation of the training focused on specific aspects of the event, such as transmission quality, with participants providing feedback through the dedicated Training Feedback form created using Jotform.com: <https://form.jotform.com/232982680225359>



The distribution of participants showed a balanced representation with 65% men and 35% women, suggesting a diverse and inclusive audience.

Moreover, the data indicated that 51% of attendees have a master’s degree, 39% a PhD degree and 10% bachelor’s degree.



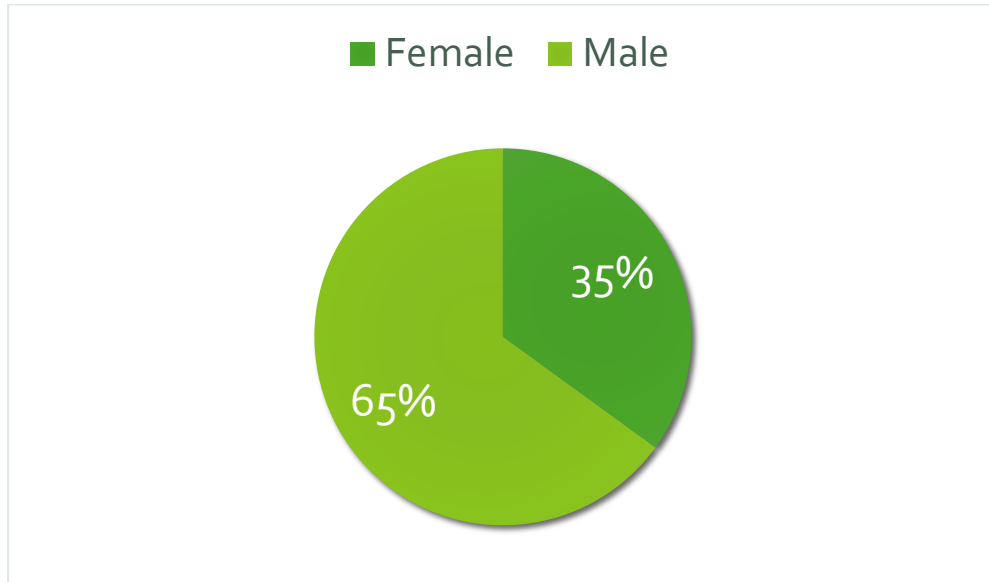
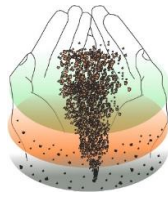


Figure 1. Gender of the participants.

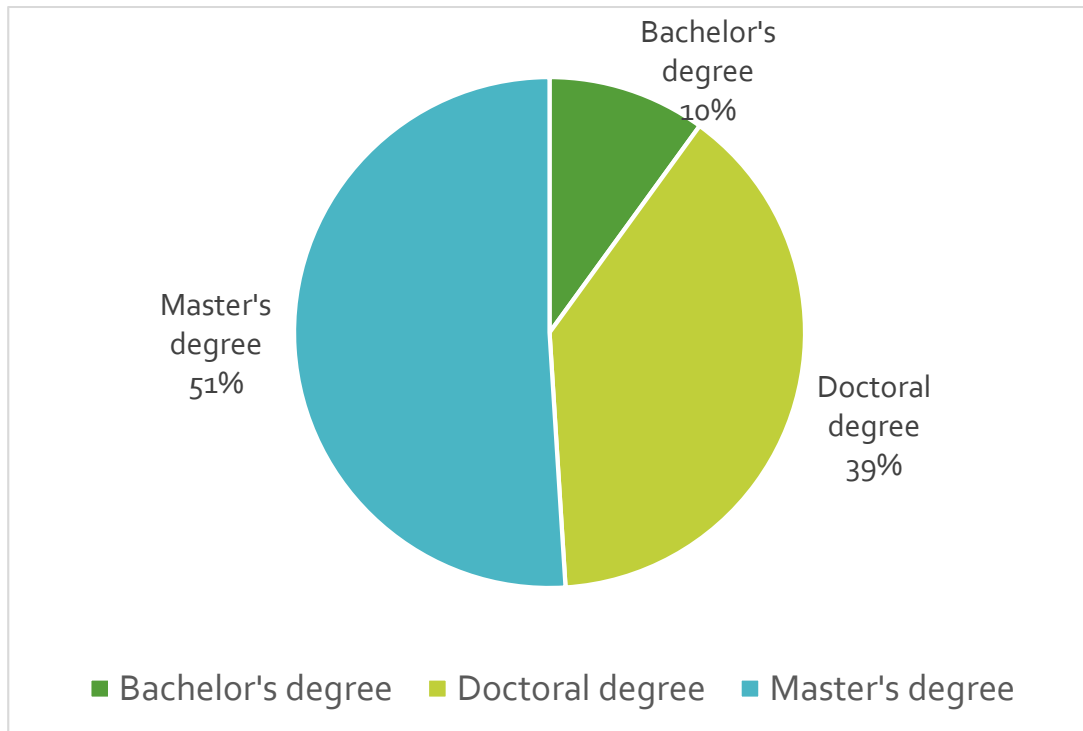
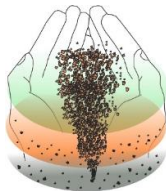
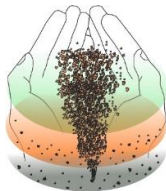


Figure 2 Participants educational status.



Other questions

Survey questions	Absolutely agree	No idea	Agree
Please rate how much you satisfied with each of the statements. It is important to compost organic waste, such as fruit and vegetable waste from the kitchen and garden.	37%	-	63%
Please rate how much you satisfied with each of the statements. Today, compost application is important in terms of reducing environmental pollution.	66%	-	34%
Please rate how much you satisfied with each of the statements. With the compost application, I understood the environmental and economic importance of recycling.	37%	-	63%
Please rate how much you satisfied with each of the statements. Compost application contributes to the preservation of the natural structure of the soil.	34%	-	66%
Please rate how much you satisfied with each of the statements. I follow the current developments about compost applications.	40%	-	60%
Please rate how much you satisfied with each of the statements. I share the necessary information for the spread of compost applications in my environment.	6%	75%	19%
Please rate how much you satisfied with each of the statements. I think that kitchen organic wastes are utilized with compost applications.	3%	62%	35%
Please rate how much you satisfied with each of the statements. I think compost products have commercial value,	100%	-	-
Please rate how much you satisfied with each of the statements. I think that compost applications should be spread all over the country.	96%	-	4%
Please rate how much you satisfied with each of the statements. I think that compost applications allow the soil to be enriched.	100%	-	-
Please rate how much you satisfied with each of the statements. I think that all producers should be informed about compost making.	94%	-	6%
Please rate how much you satisfied with each of the statements. I think that the products obtained with compost applications are healthier.	87%	-	3%



Please rate how much you satisfied with each of the statements. I think compost applications will have commercial value in the future.	100%	-	-
Please rate how much you satisfied with each of the statements. I think that compost applications are a development that concerns the whole world.	40%	-	60%
Please rate how much you satisfied with each of the statements. I think that compost applications are important for the health of living organisms and microorganisms in the soil.	100%	-	-

- Do you know what is it composting?
100% Yes
- Where do you use the compost?
48% I do nothing 18% Outdoors I pile 34% in the garden
- Where did you learn about composting?
84% In an education workshop 6% at school 10% Books, magazines, tv, Internet..
- How many years have you been using the compost application?
90% 0-5 Years 6% 6-10 hours 4% I have never used
- Which method do you use in composting?
90% Traditional 10% New technology supported
- What technique do you use when making compost?
75% Pile composting technique 16% In a box or container 6% Vermicompost (worm) technique 3% I have never used.

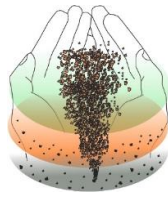
Please find the survey of the training in **annex 9**.

5. Certification for the assistants

A certification has been prepared for all participants of the Composter Project training, serving as a formal acknowledgment of their active involvement and dedication to advancing their knowledge in composting practices.

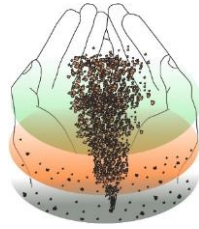
The certificates are thoughtfully designed to include essential details such as the participant's name, the title of the training program, the duration of their engagement.





Please find all the training certificates in annex 10.





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