



## “Valorisation of thistle-curdled CHEESES in MEDiterranean marginal areas” Acronym VEGGIE-MED-CHEESES

<b>Deliverable title</b>	<b>D1.8 General Project meeting 5 report</b>
<b>Deliverable Lead:</b>	Università Politecnica delle Marche
<b>Related Work Package:</b>	<b>WP1 Project coordination and overall management</b>
<b>Related Task:</b>	Task 1.1 Organization of general Project meetings
<b>Author(s)</b>	Lucia Aquilanti
<b>Dissemination level</b>	Public
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<b>Start date of project</b>	1.05.2019
<b>Duration</b>	36 months (after project end extension: 48 months)
<b>Abstract</b>	The Report corresponds to the minutes of the General project meeting 5

### Versioning and Contribution History

Version	Date	Modified by	Modification reason
V1.0	5/11/2021	Lucia Aquilanti	First version
V2.0	6/11/2021	Lucia Aquilanti	Comments after peer review process

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**GENERAL PROJECT MEETING 5**  
**PRIMA FUNDED PROJECT UNDER THE 2018 CALL**  
**“Valorisation of thistle-curdled CHEESES in MEDiterranean marginal areas”**  
**Acronym VEGGIE-MED-CHEESES**

**4 NOVEMBER 2021, web conference**

1. LOCATION

**TEAMS web conference**

On June 4th, 2021, at 10.00 am (Rome time), the Principal Investigators (PI) and the research Team Members of the Partners of the VEGGIE-MED-CHEESES Consortium met via TEAMS, regularly convened by the Coordinator of the Project, Prof. Lucia Aquilanti, with an email dated 23.10.21.

2. PARTICIPANTS

The attendance situation at the beginning of the meeting is shown in the following table:

Partner No.	Organisation	Participant (Permanent Staff)	Role	Attendance
<b>Coordinator (Partner 1)</b>	Dipartimento di Scienze Agrarie, Alimentari e Ambientali, Università Politecnica delle Marche, Italy (short name: D3A-UNIVPM)	<b>Lucia Aquilanti</b>	<b>Project Coordinator PI of UNIVPM</b>	<b>P</b>
		Andrea Osimani	Team member	A
		Cristiana Garofalo	Team member	A
		Nadia Raffaelli	Team member	<b>A</b>
		Massimo Mozzon	Team member	P
		Simona Casavecchia	Team member	<b>A</b>
		Fabio Taffetani	Team member	A
		Roberto Orsini	Team member	A
		Raffaele Zanolì	Team member	<b>P</b>
		Cinzia Mannozi	Team member	A
		Roberta Foligni	Team member	P
		Stefano Zenobi	Team member	<b>P</b>
		Vesna Milanovic	Team member	<b>P</b>
Giorgia Rampanti	Team member	<b>P</b>		
Federica Cardinali	Team member	<b>P</b>		
<b>Partner 2 (P2)</b>	Consiglio per la ricerca in agricoltura e l'analisi dell'economia agraria - Centro di ricerca Alimenti e Nutrizione (short name: CREA-AN)	<b>Pamela Manzi</b>	<b>PI of CREA-AN</b>	<b>P</b>
		Flavio Paoletti	Team member	A
		Antonio Raffo	Team member	<b>P</b>
		Fiorella Sinesio	Team member	<b>A</b>
		Mena Ritota	Team member	<b>P</b>
		Maria Gabriella Di Costanzo	Team member	<b>A</b>

		Elisabetta Moneta	Team member	<b>A</b>
		Nicoletta Nardo	Team member	A
		Marina Peparao	Team member	A
<b>Partner 3 (P3)</b>	Departamento de Tecnología de Alimentos y Nutrición, Universidad Católica San Antonio De Murcia (short name: UCAM)	<b>Luis Tejada Portero</b>	<b>PI of UCAM</b>	<b>P</b>
		Jose María Cayuela	Team member	A
		Eva Salazar Serna	Team member	A
		Adela Abellán	Team member	<b>P</b>
		Estefania Bueno Gavila	Team member	<b>P</b>
		Cindy Maria Bande de Leon	Team member	<b>P</b>
<b>Partner 4 (P4)</b>	Department of Food Hygiene and Technology, Veterinary Research Institute, Hellenic Agricultural Organization, DEMETER (short name: DEMETER)	Akis Psomas	<b>PI of DEMETER</b>	<b>A</b>
		Georgios Samouris	Team member	A
		Loukia Ekateriniadou	Team member	A
		Evriliki Boukouvala	Team member	A
		Maria Ioannidou	Team member	A
		George Vafeas	Team member	A
		Virginia Giantzi	Team member	A
<b>Partner 5 (P5)</b>	High Institute of Agronomy of Chott-Mariem, Sousse University (ISA-CM)	Bouthaina Al Mohandes Dridi	<b>PI of ISA-CM</b>	<b>A</b>
		Rabiaa Haouala	Team member	A
		Ismahen Essaidi	Team member	A
		Najla Dhen	Team member	<b>P</b>

Legend: P Present; A Absent

### 3. AGENDA FOR THE MEETING

#### 10 h 00 – 10 h 15 (Rome time)

##### 1. Connection and greetings

#### 10h 15– 10h 30

##### 2. Communications from the Project Coordinator

#### 10h 30 - 11h 00

##### 3. Up-to-date of the WP2 activities: flash presentations/speech by involved PIs/Team membersn (ISA-CM, UNIVPM)

#### 11h 00 - 11h 30

##### 4. Up-to-date of the WP3 activities: flash presentations/speech by involved PIs/Team members (ISA-CM, UNIVPM)

#### 11h 30 - 11h 45

##### 5. Up-to-date of the WP4 activities: flash presentations/speech by involved PIs/Team members (UNIVPM, CREA-AN, UCAM, DEMETER)

#### 11h 45 - 12h 15

6. **Up-to-date of the WP5 activities: flash presentations/speech by involved PIs/Team members (UNIVPM, CREA-AN, UCAM, DEMETER)**

#### 12h 15 - 12h 30

7. **Up-to-date of the WP6 activities: flash presentations/speech by involved PIs/Team members (UNIVPM)**

#### 12h 30 – 13h 00

8. **Up-to-date of the WP7 activities: flash presentations/speech by involved PIs/Team members (All Partners)**

#### 13h 00

9. **Closure of the meeting**

## 1. Connection and greetings

The Project Coordinator, Prof. Lucia Aquilanti, welcomes the participants and opens the meeting with the following communications.

## 2. Communications from the Project Coordinator

- The Coordinators reminds that on 23.10.2021 she has emailed to all PIs the PRIMA formal letter for approval of the VEGGIE-MED-CHEESES Mid-term Report together with the Report drafted by the designed external Expert; the Coordinator reminds some key recommendations suggested by the external Expert in the Report, which are briefly summarized as follows:
  - ✓ *“It is recommended to consider if the interaction with relevant stakeholders could become more interactive to ensure technology transfer and exploitation of innovation capacity. The project team is encouraged to emphasize exploitation activities higher than what currently appears to be the case.”*
  - ✓ *“The project website appears professional and structured. Information on scientific papers are available on the project website. Currently no data are available on the project website, and it is unclear when these will be made available. It is recommended to consider adding information on dissemination in public media on the project website.”*
  - ✓ *Pursuing following activities is endorsed: (i) Exploitation of the potential of manufacturing of cheeses with thistle rennet (pilot testing); (ii) Elucidation of consumer needs and preferences and the potential value chain improvements; (iii) Consolidation of dissemination and exploitation activities”.*
    - ✓ *“It is recommended that the project team elucidates the project’s dissemination and exploitation activities. Along this, it could be relevant to promote dissemination activities on the project website.”*

- Regarding the need of a deeper engagement of the VEGGIE-MED-CHEESES Stakeholders, the Coordinator proposes the drafting and further dispatch by email of a Stakeholder Questionnaire in English, to be translated in the four official languages of the VEGGIE-MED-CHEESES Consortium (Spanish, French, Italian, Greek), depending on the nationality of the consulted Stakeholder.
- The Coordinator kindly reminds the need to integrate some already drafted by incomplete deliverables and to start with the drafting of new deliverables; at this regards, she anticipated that in the next days she will send again the files to be up-to-dated.

### 3. Up-to-date of the WP2 activities: flash presentations/speech by involved PIs/Team membersn (ISA-CM, UNIVPM)

The Coordinator shares with the consortium the last up-to-dates received from Prof. Simona Casavecchia dealing with the on progress molecular characterization of different populations of *Onopordum tauricum* sampled from various Italian regions.

Regarding the morphometric characterization of wild *Cynara humilis*, in charge to a team of botanists from the University of Valencia (in Kind collaboration), this activity will be postponed to Spring 2022.

Hence, the Coordinator leaves to floor to Dr Najla Dhen for an up to date about the agreement for a forthcoming stage of two Tunisian researchers at UNIVPM under the guidance of Prof. Simona Casavecchia for the molecular characterization of the sampled *Onopordum platylepis* populations.

List of WP2 deliverables with delivery date (in green, delivered Deliverables; in red: Deliverables actually under progress)

D2.1	Lyophilized biomass from spontaneous thistle populations	30.11.2019 (month 7)	X
D2.2	Catalogued and stored seeds from Mediterranean spontaneous thistle populations	31.12.2019 (month 8)	X
D2.3	Report with elaborated data overall collected within WP2	31.05.2020 (month 13)	

### 4. Up-to-date of the WP3 activities: flash presentations/speech by involved PIs/Team members (ISA-CM, UNIVPM)

The Coordinator leaves the floor to the following attendants:

- Dr. Najla Dhen, team member of ISA-CM, for the presentation of the main results and tasks in progress for WP2-3 at ISA-CM, dealing with the cultivation of *O. platylepis* at the Tunisian site.
- Dr. **Stefano Zenobi** (D3A-UNIVPM team member) for the presentation of the main results and tasks in progress for WP3 at D3A-UNIVPM, dealing with the cultivation of *O. tauricum*, *Cynara humilis* and *C. cardunculus* at the Didactic/Experimental farm Pasquale Rosati (AN, Italy). Concerning the Italian site, Dr Zenobi confirms that 72 plants are cultivated for the three species listed above whereas neither seeds nor young plants were available for *Onopordum platylepis*, hence for this species, the cultivation trial was stopped in Summer 2021.

List of WP3 deliverables with delivery date (in green, delivered Deliverables; in red: Deliverables actually under progress)

D3.1	Experimental plan design of cultivation trials	31.08.2019 (month 3)	X
D3.2	Lyophilized biomass from cultivated thistles	30.09.2020 (month 17)	X
D3.3	Report with elaborated data overall collected within WP3	30.09.2021 (month 29)	
D3.4	Recommendations and guidelines on the sustainable production of thistle crops in the Mediterranean basin (Month 32)	31.10.2021 (month 30)	

## 5. Presentations of the main results achieved by Research partners (UNIVPM) involved in WP4 and open discussion on WP4 issues

The Coordinator briefly shares the last up-to-dates dealing with the characterization of taurosin (the protease with a milk-clotting activity purified from *Onopordum tauricum* extract) carried out by the team of biochemists working at PARTY 1 and hence leaves the floor to the following attendants:

- Dr Cindy Maria Bande de Leon (UCAM team member) who elucidates the last outcomes collected at PARTY3 about the characterization of the extract from *Onopordum platylepis*
- Dr Pamela Manzi (PI of CREA-AN) reports about the analysis of minerals in both CE\_st and CE\_ct of the three thistle species under study.

Concerning the analysis of bioactive peptides occurring in the thistle crude extracts, which represents an additional activity in respect with the original work plan, the Coordinator reminds to UCAM, who carry out this activity for all the three extracts, the need to integrate Deliverables D4.1 (almost completed) and D4.2 (in progress) with the description of methods, results and references for anti-ACE determination.

Moreover, given the very interesting data on mineral contents of CEs, the Coordinator suggests the publication of these data together with those collected onto the same extracts by Food technologists working at PARTY1.

List of WP4 deliverables with delivery date (in green delivered Deliverables; in red: Deliverables actually under progress)

D4.1	Crude extracts from spontaneous thistles (CE_st) endowed with milk coagulant activity and bioactive compounds	30.05.2020 (month 13)	X
D4.2	Crude extracts from cultivated thistles (CE_ct), endowed with milk coagulant activity and bioactive compounds	31.10.2020 (month 18)	X
D4.3	Pure and enzymatically active proteases	31.01.2022 (month 33)	
D4.4	Scientific report with data overall collected within WP4	31.01.2022 (month 33)	

Since all research activities aimed at fully characterizing the crude extracts obtained from cultivated thistles have been completed, the Coordinates anticipates that the drafting of D.4.2 can be started.

## 6. Up-to-date of the WP5 activities: flash presentations/speech by involved PIs/Team members (UNIVPM, CREA-AN, UCAM, DEMETER)

The Coordinator leaves the floor to the following attendants:

- Dr. **Giorgia Rampanti** (PhD Student at UNIVPM) who shows the preliminary results dealing with the exploitation of crude extracts from spontaneous and cultivated *Onopordum tauricum* for the manufacture of

Caciofiore cheese at a local dairy farm and the comparison of the experimental cheese prototypes with control cheeses produced using a commercially available thistle (*C. cardunculus*) rennet.

- Dr **Cindy Maria Bande de Leon** (UCAM team member) who reports about the cheese-making trials using CEs from *Onopordum platylepis*, *Cynara cardunculus* and *Cynara humilis* for the manufacture of Queso de Murcia and Torta del Casar.
- Dr. **Antonio Raffo** (CREA-AN team member) who shared the preliminary results of the olfactive and textural analyses of the experimental and control Caciofiore cheeses.

Regarding the sensory analyses in charge to CREA-AN, the Coordinator reminds that, notwithstanding the absence in 25 g of pathogens (*Listeria monocytogens*, *Salmonella*, staphylococcal enterotoxins), the Caciofiore cheese prototypes manufactured with both *O. tauricum* CE\_st and CE\_ct, were not considered suitable for human consumption and hence for tasting by the trained pannelists working at PARTY2, due to their high counts of coliforms ( $\geq 10^5$  colony forming unit per gram of cheese). Hence, according to the Italian regulation "Accordo Stato Regioni– Linee guida di applicazione del Regolamento CE 2073/2005 sui criteri microbiologici), coliforms are hygiene indicators whose count in cheese should not exceed  $10^5$  CFU/g.

List of WP5 deliverables with delivery date (in green delivered Deliverables; in red: Deliverables actually under progress)

D5.1	Control and experimental cheeses made with CE_st	28.02.2021 (month 22)	
D5.2	Report with data on physico-chemical, chemical, microbiological, and sensory characterization of control and experimental cheeses made with CE_st	31.03.2021 (month 23)	
D5.3	Control and experimental cheeses made with CE_ct	31.05.2021 (month 25)	
D5.4	Report with data on physico-chemical, chemical, microbiological, and sensory characterization of "second round" cheeses	30.06.2021 (month 26)	
D5.5	Report with statistical elaboration of data overall collected in WP5 and identified biomarkers for demonstration of quality/authenticity of Mediterranean thistle-curdled cheese	30.08.2021 (month 28)	
D5.6	Recommendations and guidelines on manufacturing and authentication of high-value and safe Mediterranean thistle-curdled cheeses	30.09.2021 (month 29)	

## 7. Presentations of foreseen activities related to WP6 (UNIVPM)

The Coordinator leaves the floor to Prof. Raffaele Zanoli (UNIVPM team member), who describes the in progress activities dealing with focus groups (drafting of guidelines destined for people in each country to carry out focus groups). Regarding consumer tests, Prof. Zanoli kindly proposes to assess the consumer acceptance towards Feta in 4 Mediterranean countries (IT, SP, TN, GR), as originally planned and to test the consumer acceptance towards Queso de Murcia just in Spain. In addition, he reminds that no more than 2 - 3 kg for each experimental and control cheese will be needed for the consumer tests with at least 100 consumers per country.

List of WP6 deliverables with delivery date (in green delivered Deliverables; in red: Deliverables actually under progress)

D6.1	Report on consumer analyses	31.01.2022 (month 33)	
D6.2	Report on value-chain and business model analysis	31.03.2022 (month 35)	

## 8. WP7 products and deliverables

The Coordinator presents the list of delivered products for WP7.

(in green delivered Deliverables; in red: Deliverables actually under progress)

D7.1	Project logo, fonts, and communication templates	31.05.2019 (month 1)	X
D7.2	Public VEGGIE-MED-CHEESES website	30.06.2019 (month 2)	X
D7.3	VEGGIE-MED-CHEESES intranet	30.06.2019 (month 2)	X
D7.4	Press release at Project launch for the wide public	31.07.2019 (month 3)	X
D7.5	Establishment of a stakeholder-platform as a tool for industry level observatory and knowledge exchange network	31.10.2019 (month 6)	X
D7.6	VEGGIE-MED-CHEESES Data management plan	31.10.2019 (month 6)	X
D7.7	Collection of newsletters	30.04.2022 (month 36)	
D7.8	At least 4 articles published in crop producers/dairy industries journals	30.04.2022 (month 36)	
D7.9	At least 4 open-access papers published in international peer-reviewed journals	30.04.2022 (month 36)	
D7.10	At least 4 contributions to conference proceedings	30.04.2022 (month 36)	
D7.11	At least 1 downloadable project leaflet	30.04.2022 (month 36)	
D7.12	Final Workshop	30.04.2022 (month 36)	
D7.13	Press release at Final Workshop for the wide public	30.04.2022 (month 36)	
D7.14	Attendance at (at least) 1 event/exhibition aimed at promoting traditional local dairy products	30.04.2022 (month 36)	

Regarding the deliverable 7.14, the Coordinator reminds that once the pandemic is over it will be crucial to attend at an event/exhibition aimed at promoting traditional dairy products. Prof. Luis Tejada Portero from UCAM reminds that on 14<sup>th</sup> October 2020 he attended an on-line divulgative event on Torta del Casar [26 Semana de la Torta del Casar - Jornada Tecnica Divulgativa de la Universidad del Queso], where he presented the VEGGIE-MED-CHEESES project, its Consortium, objectives and preliminary encouraging outcomes. The title of the presentation was: “*Cynara cardunculus*: science and technology in a millennial tradition; vegetable rennet in the preparation of cheeses and Torta del Casar” (on-line event using the Zoom platform, <https://taqus.online/jornada-divulgativa/>)

## 9. Closure of the meeting

- ✓ Prof. Luis Tejada Portero proposes that the Coordinator establishes standards, criteria or general rules for defining authorship in papers, to be shared with and agreed by all PIs. Prof. Portero suggests that various aspects such as data processing, communication of future publications, article writing, costs of open access articles, etc., should be included in these standards. The Coordinator agrees to be in charge of such an additional activity. Soon she will draft and share a preliminary version of such a paper authorship agreement.
- ✓ The Coordinator anticipates that in the next days she will have a 1-to-1 meeting with Dr Akis Psomas (PI of DEMETER) and Prof. Nadia Raffaelli (Biochemist working at UNIVPM) about the progresses of WP4 (characterization of taurosin) and WP5 (manufacture of experimental and control Feta cheeses), respectively.

As there is nothing else to discuss, the project Coordinator declares the session closed at 13.15.





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**VEGGIE-MED-CHEESES Project Coordinator**

Prof. Lucia Aquilanti PhD