

VEGGIE-MED-CHEESE

Valorisation of thistle-curdled

CHEESES in MEDiterranean marginal areas



Lucia Aquilanti, ITALY
Pamela Manzi, ITALY
Luis Tejada Portero, SPAIN
Akis (Evdoxios) Psomas, GREECE
Bouthaina Al Mohandes Dridi, TUNISIA

Section 2

Thematic area 3: Mediterranean Food value chain for regional and local development
Topic 3.1: Valorising food products from traditional Mediterranean diet

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Main objectives:

- (i) valorize traditional and typical local cheeses by meeting the world-wide increase in the demand of cheeses made by non-animal rennet;
- (ii) assess the technological and socio-economic viability of the utilization and valorization of spontaneous herbaceous plants in the Mediterranean as traditional alternatives to animal rennet;
- (iii) build upon traditional knowledge and culinary heritage while establishing the conditions for better control of safety and quality of these traditional cheeses;
- (iv) improve the traditional cheese-making value chain.

Specific objectives:

- (i) acquiring in-depth knowledge on different thistle species and ecotypes candidates for possible use as milk-clotting agents;
- (ii) developing sustainable agronomic practices for thistle cultivation in the Mediterranean basin;
- (iii) characterizing thistle aqueous crude extracts (CEs) for selection of milk clotting agents with the most promising characteristics for exploitation in cheese-making;
- (iv) exploiting CEs for manufacturing of both local cheeses traditionally manufactured with thistle rennet and local cheeses traditionally manufactured with other coagulating agents;
- (v) assessing the consumer needs, preferences and acceptance towards these cheeses and the potential value chain improvements.

Expected impacts

- *Development of new products, bioactive extracts and molecules, and functional food, nutrients and bioactive compounds linked to local traditional protocols and recipes and according to seasonal and sustainable production schemes*

Specific target of this expected impact: (i) seeds and thistles sampled from fully characterized spontaneous populations of *Cynara humilis*, *Carlina acanthifolia* and *Onopordum tauricum*; (ii) new sustainable thistle crops from selected thistle species/ecotypes to be exploited for the production of thistle rennet destined to thistle-curdled cheese production; (iii) new fully characterized thistle aqueous extracts naturally rich in bioactive compounds and proteases with milk-coagulating activity; (iv) new vegetable proteases with milk-coagulating activity; (v) optimized versions of Mediterranean typical cheeses traditionally manufactured with thistle rennet; (vi) new vegetarian-friendly versions of Mediterranean typical cheeses traditionally manufactured with animal rennet

- *Development of new tools to demonstrate quality and authenticity of raw materials and products*

Specific target of this expected impact: (i) new quantifiable biomarkers to demonstrate quality and/or authenticity of Mediterranean thistle-curdled cheeses

- *Increased efficiency and profitability of Mediterranean sheep and goat dairy sector,*
- *Increased profitability and environmental sustainability of Mediterranean non-food crop production,*
- *Biodiversity conservation*
- *Increased societal acceptance*
- *Improved social well-being and rural development*
- *Improved scientists' mobility, visits and exchange across the Mediterranean*