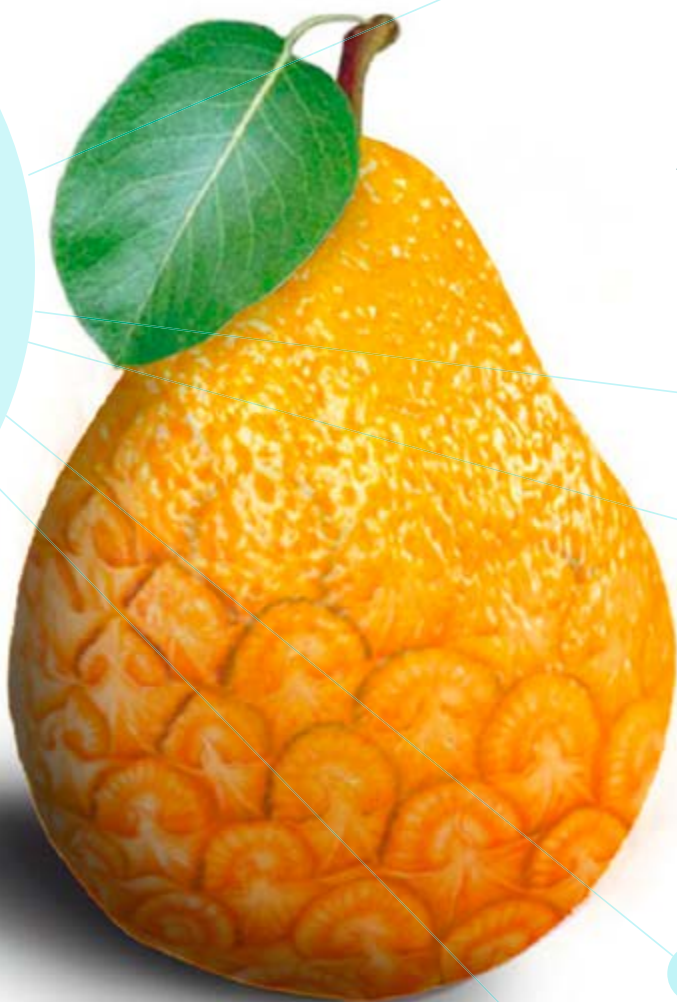




# SAlimentar

1º Simpósio INIAV para a Segurança Alimentar  
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Livro de  
Resumos

Key words: Serpa cheese, ripening, microbial consortia, specificity.

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### **RESEARCH PROJECT SERPAFLORA: VALORIZATION OF NATIVE MICROBIOTA OF THE SERPA CHEESE**

M.T. Santos<sup>1</sup>, P. Serol<sup>1</sup>, M. Pintado<sup>2</sup>, H. Rodrigues<sup>2</sup>, S. Gomes<sup>3</sup>, A.P.L. Martins<sup>3,4</sup>, N. Alvarenga<sup>3,4,5</sup>

1. Escola Superior Agrária, Instituto Politécnico de Beja, Beja, Portugal;
2. Centro de Biotecnologia e Química Fina – Laboratório Associado, Escola Superior de Biotecnologia, Universidade Católica Portuguesa/Porto, Portugal;
3. UTI – Instituto Nacional de Investigação Agrária e Veterinária, Oeiras, Portugal;
4. LEAF - Instituto Superior de Agronomia – Universidade de Lisboa, Lisboa, Portugal;
5. GeoBioTec Research Institute, Universidade Nova de Lisboa. Caparica, Portugal.

Serpa is a Protected Designation of Origin cheese, as provided for in Regulation (EEC) 2081/92 of the European Commission, as such, it must be manufactured in the defined geographic area. Serpa traditional manufacturing process maintained through the ages in region, requires the use of raw ewe's milk and vegetable coagulant based on dried flowers of *Cynara cardunculus* L., without any commercial starter, which emphasizes the role of the selected autochthonous microbiota. Its proliferation and qualitative composition will play a key role in creating the specific sensorial profile, general quality and safety. This microflora comes mainly from raw milk, but also from the whole surrounding environment. Under these conditions, the autochthonous microbiota may reflect its authenticity. The dependence of raw milk determines a great heterogeneity of the final characteristics, difficult to control by the cheesemaker in case of milk of inferior microbiological quality. In addition, from the point of view of food safety, the consumption of raw milk cheeses products causes some suspicions making the acceptance by some markets difficult.

The aim of this project is to develop a clear understanding on the microbiome of the Serpa cheese and relate this factor with cheese quality. The specific objectives of this proposal are summarized as follows:

- (i) To characterize the Serpa cheese microbiome using culture-dependent techniques and high-throughput DNA sequencing (HTS);
- (ii) To correlate the cheese microbial profile with the chemical, biochemical, rheological and sensorial attributes, in order to establish dominant autochthonous strains in high quality cheeses;
- (iii) To select appropriate strains based on food safety, probiotic nature, technological aptitude, and behaviour in laboratory cheese models;
- (iv) To develop starter cultures, single or multiple strains, and evaluate their effectiveness at the laboratory and pilot scales;
- (v) To establish novel technologies for the preservation and commercial presentation of innovative starter cultures.

More information:

<https://www.serpaflorea.com/>

<https://ec.europa.eu/eip/agriculture/en/find-connect/projects/serpaflorea-valoriza%C3%A7%C3%A3o-da-flora-aut%C3%B3ctone-do>

Key words: SerpaFlora Project, probiotic, autochthonous microbial consortia, microbiome.

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## EXTRACTS FROM THE CARDOON *CYNARA CARDUNCULUS* L. CAN BE PRESERVED UNDER REFRIGERATION WHILE MAINTAINING THE TECHNOLOGICAL PROPERTIES FOR CHEESEMAKING

A. Penas<sup>1</sup>, S. Gomes<sup>2</sup>, A.T. Belo<sup>3</sup>, N.B. Alvarenga<sup>2,4,5</sup>, A.P.L. Martins<sup>2,4\*</sup>

<sup>1</sup> Instituto Superior de Agronomia, Universidade de Lisboa, 1349-017 Lisboa, Portugal, Lisboa

<sup>2</sup> Unidade de Tecnologia e Inovação – Instituto Nacional de Investigação Agrária e Veterinária, Quinta do Marquês, 2780-157 Oeiras, Portugal

<sup>3</sup> Unidade Estratégica de Investigação e Serviços de Produção e Saúde Animal - Instituto Nacional de Investigação Agrária e Veterinária, Pólo de Santarém, 2005-048 Vale de Santarém, Portugal;

<sup>4</sup> Landscape, Environment, Agriculture And Food – Instituto Superior de Agronomia, U Lisboa, 1349-017 Lisboa, Portugal

<sup>5</sup> GeoBioTec Research Institute, Universidade Nova de Lisboa, Caparica, Portugal.

\* Corresponding author e-mail [pedro.louro@iniav.pt](mailto:pedro.louro@iniav.pt)

### Abstract

The cardoon *Cynara cardunculus* flower pistils have been used from centuries as a coagulant in cheesemaking in Portugal and also in Spain. In spite of the important role that coagulants play in cheese characteristics the traditional use of the flower is not subject to adequate control. The lack of plant material and inherent heterogeneity does not contribute to the cheese quality for which it has been considered a key factor. The daily flower preparation remains nowadays and the presentation of titrated and guaranteed solutions is scarced and cannot be used in PDO cheese manufacture. The traditional use of this coagulant agent has been subject of an application for inclusion in the European list of food enzymes (Regulation EC N° 1331/2008), an essential and mandatory step for its regulatory use. This work aimed to evaluate the effect of conservation on the technological properties of cardoon flower extracts. Traditional preparations, involving mortar maceration and filtration, and formulations obtained with different extracting solutions were obtained from a pool of cardoon flower collected at the INIAV campus in Oeiras, Portugal. The coagulant extracts were kept up to 4.5 months under refrigeration. Samples of the extracts were evaluated along the conservation period for milk clotting activity (IDF 199/ISO 23058) and coagulation evolution using an