



V Encontro de Estudantes de Doutorado em Ambiente e Agricultura

9 de dezembro 2020

V PhD Students Meeting in Environmental and Agriculture

9th December 2019

Pólo da Mitra, Universidade de Évora

Book of abstracts

Title: V PhD Students Meeting in Environmental and Agriculture

Editors:

Marta Laranjo

Ana Alexandre

Cláudia Marques

Address:

Universidade de Évora,

Largo dos Colegiais, 2

7004-516 Évora

Published:

UE – Universidade de Évora

Copyright © 2020, all rights reserved

ISBN: 978-972-778-179-9

Proteomic study of proteolysis during ripening of cheese made with *Cynara cardunculus* L.

Garrido, A. L.¹, Freitas, S.¹, Silva, F.¹, Lamy, E.², Conceição, C.^{1,2}

¹Escola de Ciências e Tecnologias, Departamento de Zootecnia, Universidade de Évora (UE), Pólo da Mitra, Ap. 94, 7002-554 Évora, Portugal

²MED (Instituto Mediterrâneo para a Agricultura, Ambiente e Desenvolvimento), Departamento de Zootecnia, Universidade de Évora (UE), Pólo da Mitra, Ap. 94, 7002-554 Évora, Portugal.

Email: cristinaconceicao@uevora.pt

The pistils of wild and cultivated cardoons are used as vegetal coagulant to produce several traditional ewe's and goat's cheeses, some of them benefit from protected designation of origin (PDO) status in which *Cynara cardunculus* flower extracts have been successfully employed and legally required. The type of coagulant agent is one of the main factors responsible for the variability in cheese characteristics, being therefore its effect on the proteolysis a subject of profound study. A precise analytical technique is essential to understand the impact of different factors on cheese proteolysis. In this study three electrophoretic techniques have been used to evaluate the cheese proteolysis namely (1) urea polyacrylamide gel electrophoresis (Urea-PAGE) and (2) sodium dodecyl sulphate polyacrylamide gel electrophoresis (SDS-PAGE) for the insoluble fraction of cheese and (3) twodimensional gel electrophoresis (2-DE) for the soluble fraction. Results showed that urea-PAGE was the best method for cheese insoluble fraction analysis. Both urea PAGE and 2-DE methods are complementary and proteomic tools are helpful in understanding the proteolysis of ewe's cheese.

The present work was supported by ValBioTecCynara (ALT20-03-0145- FEDER-000038) – Economic valorization of Cardoon (*Cynara cardunculus*): study of natural variability and biotechnological applications), co-financed by FEDER under the Alentejo 2020 Program. FCT for UID/AGR/00115/2013 to ICAAM, for UID/AGR/04129/2013 to LEAF and for UID/GEO/04035/2013 to GEOBIOTEC.