



## Mid-term Seminar

## SHEEP

# Holistic Production to Reduce the Ecological Footprint of Meat (EcoLamb)

**Partners** UNITO, IT; CIMO-IPB, PT; USTUTT, DE; UNG, SL; CTC & SERIDA, & ITACYL, ES; AdMeUni, TR

### Problem Addressed in the project

sustainability of the intensification of animal production and its potential damage to the environment and human health as well as implications to animal welfare. Project focuses on extrinsic factors like product origin, general production practices, animal welfare, social & religious values, climate change, water & air pollution, and human health

**Objective** identify, support and promote functional healthier lamb meat from low ecological footprint production systems, conforming to Europe's Sustainable Animal Production mandate

**Interim research findings** Although still early stages, our biodiversity assessment showed a arthropod biodiversity in extensive than in intensive and semi intensive production systems. Biodiversity abundance also differed between bioregions (being higher in Alpine than in Continental) and between types of pastures (higher in mountain pastures than in lowland pastures where animals are also fed concentrates and hay).

Data on qualitative behaviour assessment, familiar approach and fleece quality tests subjected to descriptive statistics analyses on extensively, intensively and semi-intensively reared lambs. Results showed a significant variance suggesting that productions systems which impacts sheep response and behaviour may also effect meat quality  
The study so far showed that storage time for vacuum packaged fresh, chilled lamb meat can reach 2 weeks at a temperature of +4 °C maintaining satisfactory microbiological quality at the end of shelf life. However there was a statistically significant difference in Total Viable Count, Lactic Acid Bacteria and Psychotropic Plate Count between extensively reared and intensively reared lambs in Italy.

Significant difference in meat quality both in nutrition value (Total Fatty Acids) and Sensory qualities were seen between the two production systems in Spain

**Future research and activities** Stress sensor eartags to analyse the impact of production on meat quality is now beginning to deliver reliable data and should provide interesting results to the project outcomes.

The chronic stress findings from hair cortisol level from different typology farms will also shed a new perspective to the animal welfare debate.

Biological survey assessments from Year 2 of the project will give a broader insight into the impacts different productions systems are having on the environment by identifying those under decline

### Funding



**FCT** Fundação para a Ciência e a Tecnologia



**INIA** Instituto Nacional de Investigación y Tecnología Agraria y Alimentaria



REPUBLIKA SLOVENIJA  
MINISTRSTVO ZA KMETIJSTVO,  
GOZDARSTVO IN PREHRANO



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 696231