

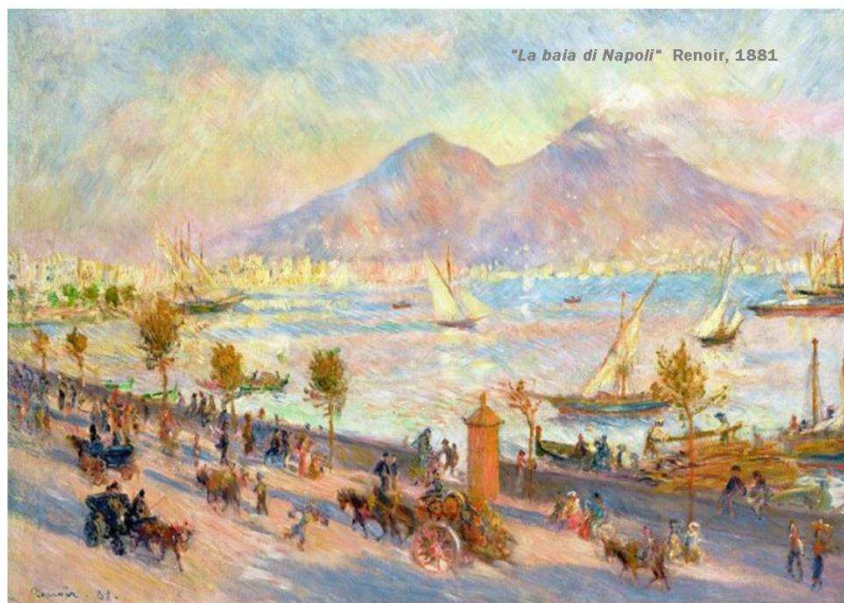
71°



**SOCIETÀ ITALIANA DELLE
SCIENZE VETERINARIE**

CONVEGNO SISVET

In collaborazione con



XVII Convegno SICV

XV Convegno SIRA

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IV Convegno RNIV

I Convegno ANIV

28 Giugno - 1 Luglio 2017

Università degli Studi di Napoli "Federico II"

Corso Umberto I, 40 - 80138 - Napoli

I contributi presenti negli Atti del 71° Convegno Sisvet 2017

potranno essere citati utilizzando il codice ISBN 9788890909245

Comunicazioni ORALI

THE ROLE OF ANATOMY WITHIN CLIMAPP: A PROJECT TO IMPROVE SUSTAINABLE DEVELOPMENT IN APENNINE PASTORAL SYSTEMS

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Pastoral systems have to face climate change, since the increasing drought will affect herbage features, carrying capacity and animal welfare, representing a threat to biodiversity conservation and livestock rearing. The downsides of climate change impacts may be reduced by management innovation. Thus, CLIMAPP project is focused on the evaluation of different farming production (milk, wool, meat, etc.) and organization (shepherding, forage chains, flock composition, etc.) scenarios adopting an integrated, multidisciplinary approach which tackles the conservation, socio-economic and cultural components of the decisional context. The aim is achieving a sustainable management of grassland productive ecosystems [1]. Within CLIMAPP project, the anatomical equipe followed groups of animals, reared in pastures with different drought stress intensities; after the maximum pasture flowering (early July) and after the maximum pasture dryness (early September). Some of the animals were slaughtered to collect tissue samples from rumen in order to measure the epithelium keratinization degree [2], and mammary glands to evaluate the immunolocalization and expression of Apelin and its receptor [3]. Obtained data showed modification of the rumen keratinization between the two sampling moments. As mammary gland concerns, apelin was expressed only in samples collected in July, while its receptor was evidenced both in July and in September; data analysis allowed to hypothesize both the endocrine and autocrine action for the apelin at mammary gland level. The anatomical data were integrated with those obtained from the evaluation of variation referred to forage composition, milk production and composition. In addition, the quality and peculiar features of cheese was evaluated by means of a sensory panel. A consumer test associated with an experimental auction was used to evaluate consumer preference and willingness-to-pay [4] [5]. Interesting information emerged by data integration, suggesting a possible strategy to adopt by farmer to differentiate and certificate products obtained by a conservative management of natural grasslands that may also allow to enhance farm economic performance.

[1] Nardone A. et al. Effects of climate changes on animal production and sustainability of livestock systems. *Livestock Science*, 130: 57-69, 2010. [2] Scocco P. et al. Increase of forage dryness induces differentiated anatomical response in the sheep rumen compartments, *Microscopy Research and Technique*, 78: 738-743, 2016. [3] Grönberg M. et al. Neuroendocrine markers are expressed in human mammary glands. *Regulatory Peptides*, 160: 68-74, 2010. [4] Hamilton, R. J. Consumer-based strategy: using multiple methods to generate consumer insights that inform strategy. *Journal of the Academy of Marketing Science*, 44: 281-285, 2016. [5] Canavari M, Bazzani C. In: *Zootecnia italiana e mitigazione dei cambiamenti climatici. Analisi delle potenzialità e delle prospettive* CREA, 2016.