

involved and, indirectly, the safeguarding of their biodiversity. The main aim of this work is to emphasize the decisive role of the quality certification of *Provolone del Monaco* as a driving force for the development of both the cheese makers/producers of the product and the territory. For this purpose, through the administration of standardized questionnaires, a model of detected preferences has been carried out giving evidence of the importance of quality certification in influencing the consumer's purchasing actions. Considering that *Provolone del Monaco* received POD recognition in 2008, and that its area involves up to thirteen municipalities of the Sorrento peninsula, we could justify in terms of Brand fidelity the growth of the turnover.

#### Acknowledgements

The research was funded by Consorzio Provolone del Monaco. The authors wish to thank Associazione Allevatori Campania Molise.

## O427

### Assessing signatures of selection and climate adaptation in European and African livestock

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Livestock farming is an economically and socially important sector of agriculture and contributes 40% of the value of the agricultural output globally. Currently the global demand for livestock products is increasing with the rapidly growing human population, urbanisation, increase in incomes and a shift in diet. Climate change is likely to affect agricultural systems on many levels such as heat stress in livestock, changes in production and quality of feed crop, water availability, animal growth and milk production, disease, reproduction, and biodiversity. The domestication and dispersal of livestock along with environment-mediated selective pressures have shaped phenotypic variation and left specific signatures in the genomes of locally adapted breeds. Here we studied existing and new genome-wide genotype data

to understand livestock adaptation to climatic extremes by using three species (cattle, goat, and sheep). Breeds from challenging climates throughout Europe and northern/central Africa were compared. For each comparison, we performed selection signature analysis through sliding-windows  $F_{ST}$  and XP-EHH, and identified the genes intercepted by significant selection sweeps. We applied a consensus by majority approach to select the genes under putative selection within and across species. Around 30% and 21% of all the genes identified across species were previously described in the literature to be associated with fat deposition and overall feed efficiency, and to adaptation to harsh climates, respectively. Similar proportions were recorded in the within-species comparisons. These preliminary results suggest a key role of energy management in the adaptation strategies of ruminants, likely in the shape of increased resilience, rather than resistance to adverse climate.

## O285

### Genomic characterization of the Comune di Sicilia goat, a local Sicilian genetic resource

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Local breed conservation is important to maintain enough genetic variability to face future changes, preserve unique genetic variants of interest, and support human economy and culture. This is particularly true in Southern Italy's marginal areas, where goat farming traditionally relies on autochthonous breeds. Among these, the *Comune di Sicilia* (CS) goat is an ancient breed counting about 500 heads, reared in semi-extensive conditions in western Sicily primarily for milk production. To attribute the breed status of a population, historical, phenotypical, and genomic characterization are needed. Thus, with the BIOSAVE project's support, this study aims to investigate CS's genetic relationship with other Italian goat breeds and identify selection signatures related to specific morphological traits.

79 CS goats, sampled from two farms located in Palermo, were genotyped with Illumina SNP65 bead chip and compared with 437 goats of 14 breeds. After quality control and exclusion of related animals, 487 goats, including 72 CS, were retained. Multidimensional scaling (MDS), admixture, and genetic distance analyses were performed. Runs of homozygosity and the related inbreeding coefficient ( $F_{ROH}$ ) were calculated. ROH and  $F_{ST}$  were used to compare polled/horned and with/without microtia CS individuals.