Session 4 Poster 6

Population monitoring for milk quality, coagulation parameters and metabolic status as well as economic revenues from milk sales of six local dual-purpose cattle breeds in Italian Alpine Area

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Modern livestock production, driven by demand rather than local constraints also in mountain areas has led to a transition from traditional multipurpose breeds to specialized breeds in resource intensive farming systems. To preserve genetic biodiversity the different national breeding associations for Italian dual-purpose cattle breeds have started the project DUAL BREEDING aiming to describe and valorize the local breeds for promoting their breeding and the maintenance of biodiversity. The aim of the present study was to characterize milk quality and technological properties for quantifying the economic efficiency of various local dual-purpose cattle breeds considering the pricing scenario of the province of South Tyrol as a case. Secondly, milk data was used for analyzing dysmetabolism ketosis/acidosis within breeds. Results reveal the deficiencies of local breeds in terms of milk quality parameters (fat, protein) which are mostly recognized in the milk-payment systems of dairy cooperatives compared to specialized dairy breeds. Therefore, additional payments in form of subsidies should be continued for promoting their continued use in small-scale mountain farms as they provide various non-material functions such as some important ecosystem services being better adapted to the environment (e.g., landscape maintenance, cultural heritage). Furthermore, the phenotypic peculiarity of having a narrow fat-protein ratio for some local breeds biases the assessment of metabolic status through milk data. Therefore, for utilizing Fat-Protein-Ratio (FPR) as an indicator of health status appropriate FPR limits (thresholds) for the studied dual-purpose breeds should be found that may indicate health problems.

Session 4 Poster 7

Characterization of meat and meat products from the Italian Alpine breed Pecora Ciuta

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In livestock farming, local breeds and traditional farming systems play a crucial role in preserving rural biodiversity, particularly in mountain areas. In recent years, new strategies have been developed to improve the efficiency and conservation of animal genetic resource, through promoting in situ conservation and provisioning ecosystem services. Among them, the valorisation of associated typical food products is essential for the preservation and viability of a breed, addressing both present and future market demands. The aim of this study was to evaluate the quality of meat and meat products from Ciuta sheep, an indigenous sheep breed spread in the Italian Alps, Valtellina and Alto Lario. These sheep are mainly bred for the production of meat and traditional products, however any intervention aimed at enhancing and valorising these productions has been done. Proximate composition and fatty acid profiles were determined in the loin (L. dorsi) and in two typical dry-cured products obtained through the traditional manufacturing of whole or deboned Ciuta sheep legs, violino and bresaola, respectively. Ciuta sheep loins contained 1.5-3.5% fat (40-50% saturated), 20-22% protein, and 1% ashes. Meat from suckling lambs exhibited a fatty acid profile distinguished by a lower saturated fatty acid content if compared to meat from heavy lambs and adult ewes. Violino and bresaola were characterized by 4.5-5.5% fat, 45% protein, and 8-9% ashes, with an energy content of 230-240 kCal/100g. No significant differences were observed between the two products. Our data highlighted the presence of functional fatty acids, such as CLA, OBCFAs, and an optimal n-6/n-3 ratio, making both violino and bresaola from Ciuta sheep valuable meat products for human consumption.