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Poster Abstract – A.27

MICROSATELLITE BASED POPULATION STRUCTURE OF ITALIAN MERINOS DERIVED BREEDS: A BAYESIAN APPROACH

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In this study, both the genetic relationships and the population structure among Italian derived breeds (Gentile di Puglia, Sopravissana, and Merinizzata Italiana) and Spanish Merino using the Palmera sheep as outgroup breed, were investigated. Original Merino rams were first imported in Italy from the Aragon province as early as 1435 (rein of Alfonso D'Aragona) and continued from Rambouillet farm (France) until 1860. For this study, blood and hair samples were collected from 204 unrelated individuals belonging to 11 flocks and representing three derived Merinos breeds from southern-central Italy: Sopravissana (44), Gentile di Puglia (30) and Merinizzata Italiana (30). Spanish Merino (50) and Palmera Sheep (50) samples were also employed as reference and out-group breeds. All individuals were investigated for the genetic variation at 28 microsatellite loci (BM8125, BM1818, BM1824, CSRD247, CSSM66, ILSTS11, INRA6, MAF65, SPS115, TGLA122, BM6506, ETH225, ETH10, INRA35, INRA63, TGLA126, TGLA53, BM6526, OarCP20, OarCP34, OarFCB304, RM006, D5S2, HSC, MAF209, McM527, OarFCB11, OarFCB48) suggested by international organizations as the best for population genetic studies. Microsatellite markers were amplified with standard PCR reactions using seven multiplexes.

SSR data were used for cluster analysis according the MCMC algorithm to infer population structure and assign individuals to populations. A significant genetic relationship between Italian derived breeds and Spanish Merino was observed. The results show that the Italian derived Merinos breeds still contain a large genetic diversity and a clear population structure.