

Setting up across country genetic evaluations in sheep and goats requires international cooperation and the establishment of harmonised tools

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In sheep and goats, compared to cattle, smaller within-country populations in selection and higher relative cost of genotyping and performance recording are among the main hindrances to the development of genomic selection. An international cooperation leading to across-country genetic evaluations and conception of an optimised and affordable genomic platform might generate great benefits for stakeholders in terms of genetic progress on resilience and efficiency traits. The essential tools required for establishing an international evaluation and identifying the best panel of genomic markers across breeds have been put in place and are expected to be used widely beyond the project. A template of agreement for sharing and pooling data was proposed and signed by 10 organisations. As performance recording and models of genetic evaluation for similar traits are somehow different across country, a survey on the situation in each partner country was undertaken. Harmonised formats of files for exchanging pedigree, phenotypes and genotypes were adopted by the 10 involved organisations. A codification of breeds was set up. Allele frequency information acquired from 14 meat and dairy sheep breeds were used to detect the more informative SNP markers across populations. Connectedness between countries was assessed on a first batch of populations, underlining the relevance of implementing across country evaluation. As a main outcome of these first achievements, case studies of international evaluations will be developed for determining the best technical options and highlighting the benefits for breeders.



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