How ICAR can help in fostering cooperation across country in breeding programs: the case of the Latxa and Manech dairy sheep breeds

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ICAR, through its different bodies, provides tools to help organisations in carrying on domestic breeding programs, but also in fostering cooperation across countries to set up joint or collaborative breeding programs. It is the case of the Latxa and Manech dairy sheep breeds, each one with their black and red variation, that are similar dairy sheep breeds respectively raised in the Spanish and French Basque country. Even though each country has so far run separately its own breeding program, several projects have aimed, for almost two decades, at getting both programs closer, by building tools and initiative targeting this objective. ARDI2, an Interreg POCTEFA project, followed this purpose through different actions related to ICAR activities and services. The objective of this communication is to show, through three actions, how ICAR tools and bodies have been resourceful in pursuing the aim of bringing closer the Latxa and Manech breeding programs.

The across-country genomic evaluation task has benefited from the expertise of the Interbull Centre for the management of genotypes obtained from various platforms. By the adaptation of the GenoEx platform for sheep (Sheep GenoEx) and the adaptation of existing pipelines for the imputation stage, Interbull, in collaboration with the partners of the projects, has issued a genotype file aligned, cleaned and imputed, ready-to-use for the genomic evaluation development. The second example is the harmonisation of udder appraisal across Latxa and Manech that relies on the ICAR guidelines, whose section on udder conformation is currently being reviewed for dairy sheep. Finally, the ARDI2 project has developed the process to include Spanish milks in the reference population for the prediction of casein and fatty acid profiles from MIR spectra. The reference population initially built with milk samples from French breeds will benefit from samples from Latxa breed that will bring greater milk diversity, in addition to increasing the size of the training population.

This work, done in collaboration of the European Milk Recording standardisation network, relies on the know-how used in the Extra-MIR project covered by ICAR. These three examples illustrate the concrete benefits provided by ICAR and the bridge that can be built across species through the ICAR network.