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<b>Title</b>	<b>Innovations in the selection program of the UPRA-Grupo Pastores in Rasa aragonesa sheep breed</b>
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Keywords	

The Cooperative Oviaragon-Grupo Pastores carries out since 1994 a selection program for prolificacy in Rasa Aragonesa sheep, with 216.232 ewes at present. Sires of higher estimated breeding values are produced within the scheme by MOET, increasing the performance of this technology through the measurement of plasmatic Anti-Müllerian Hormone (AMH) in ewe embryo donors, an endocrine marker of the ovarian activity. Within this program a natural genetic prolific variant was found in 2007 (FecXR allele, BMP15 gene). Its effect on prolificacy leads to an increase of 0.35 lambs/lambing ewe when compared with non-carrier ewes, with an additive effect over the standard hormonal treatments used in farms. Recently, new variants in MTNR1A gene associated to reproductive seasonality have been detected in Rasa aragonesa breed. Non-linked SNPs in promoter and exon 2 regions have been detected decreasing the length of non-cycling period (considering anoestrus those periods with three or more consecutive weekly-sampled progesterone concentrations lower than 0.5 ng/ml) as much as 30 and 53 days, respectively, from January to August. In the same way, the allele located in exon 2 was also associated to an increase of 15 % of oestrus cycling months (based on oestrus records). Due to their productive interest, a controlled program for the outreach of FecXR allele and MTNR1A alleles has been developed. Finally, a polygenic selection program for maternal capacity is being carried out. The selection program goes on with a combined polygenic selection for prolificacy, maternal capacity and dissemination of FecXR and MTNR1A alleles.