



## Supplementary abstracts

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### **Relation between G77A polymorphism in CAT gene and lysosomal proteinases activity and sensory traits of meat from bulls of three breeds**

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MLLT samples were cut out from Black-and-White (BW, 31), Charolaise (CH, 16) and Simmental (S, 18) 12-15 months old bulls. Fragment of the bovine *CATD* gene was amplified and analyzed by RFLP/*ApaI*. Only *GG* and *GA* genotypes were identified with allele frequencies being 0.806 and 0.194 in BW, 0.656 and 0.344 in CH and 0.639 and 0.361 in S bulls. The total cathepsin D (CatD), pepstatin-sensitive cathepsin D (PSCatD), pepstatin-insensitive and leupeptin-insensitive acid autolytic activities (PIAAA and LIAAA) were determined. No interbreed differences in CatD, PSCatD were found. PIAAA and LIAAA differed between breeds ( $P \leq 0.01$ ), being higher in BW than in CH and S bulls. The percent AAA inhibition by leupeptin in BW bulls was higher than in CH and S bulls by 14.9% and 24.2%; the inhibition of AAA by pepstatin in CH bulls was higher in *GA* than *GG* animals by 15.83% ( $P \leq 0.05$ ). The protein percent of muscle in CH and S bulls was by 33.4% and 36.7% higher, than of BW bulls. The sensory traits assessed were higher in meat of CH and S than in BW bulls by 36.09% and 35.54% in aroma, by 35.67% and 33.15% in taste, by 32.24% and 21.31% in tenderness and by 36.68% and 38.24% in consistency, being between the meat of BW and CH or S bulls significantly different ( $P \leq 0.01$ ), and within tenderness, also between CH and S bulls ( $P \leq 0.05$ ). Only in meat of BW bulls significant differences were identified between genotypes (*GA* and *GG*) in aroma, taste and consistency ( $P \leq 0.01$ ) in favour of *GG* bulls.



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### **Identification IGF-I gene polymorphisms by polymerase chain reaction-single strand conformation polymorphism and its relation to growth traits in Iranian Baluchi sheep**

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Different genotypes for IGF-I were determined by Polymerase Chain Reaction-Single Strand Conformation Polymorphism (PCR-SSCP) method in Baluchi sheep. Blood samples were taken from 100 pure bred Baluchi sheep, in Abasabad Breeding Station near to Mashhad, the capital of Khorasan province, Iran. IGF-I genotypes were analyzed by SSCP method following DNA extraction and PCR reaction. Three IGF-I genotypes AA, AB and BB with frequencies of 0.38, 0.53 and 0.09, were detected, respectively. Heterozygosity value for IGF-I loci was 53%. Relationships between data and genotypes were investigated using mixed models. The average daily gain (ADG) from birth to three months of age was affected by birth type, birth weight (BW) and the square of BW. Different genotypes had not similar trend in average daily gain performance. It was concluded that IGF-I polymorphism may be a single suitable marker in selection programs for improving the average daily gain in Baluchi sheep alone.

