Study of the association of mtDNA haplogroups and Ages of 100 days in pigs

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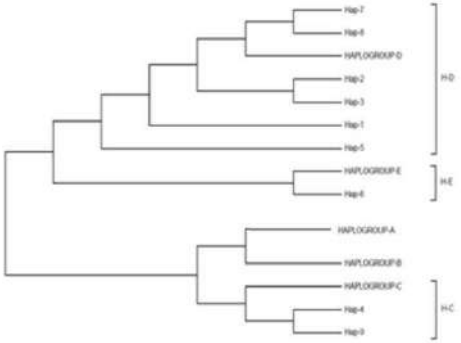
The aim of the work was to determine the mtDNA haplogroups and assess their associations with Days_100 in pigs based on sequencing the D-loop region

Materials and methods

The research was carried out on Landrace sows (n = 123). To amplification a fragment of mtDNA D-loop conducted PCR using the following primers: F5 ' - TGC AAA CCA AAA CGC CAA GT-3' and R: 3 ' - TTT TTG GGG TTT GGC AAG GC-5.

Haplogroup affiliation was determined in accordance with the sequences of the NCBI base: haplogroups A (GenBank: KT279758), B (GenBank: KT261429), C (GenBank: KT279759), D (GenBank: KT279760) and E (GenBank: KT261430).



The presented results indicate the influence of mtDNA haplogroups on Days_100 and pigs of hapogroup E showed the best results compared to analogs of haplogroup E. This may be due to the fact that haplotype E is of European origin, and haplotype C is of Asian origin.

Table. Mean (± SEM) Days_100 for haplotypes C, D and E

Haplotype	n (%)	D100
C	39 (31.7)	160,77 ± 3,35
D	66 (53.7)	159,46 ± 1,57
E	18 (14.6)	153,92 ± 2,33**

Breeding commercial European pigs is focused on increasing the growth rate, and this significantly reduces pig keeping costs and increases production efficiency. It should be noted that changes in growth rate are associated with more intense metabolic processes where mitochondria play a significant role. This may be reflected at the genetic level being determined by the nucleotide sequence of mtDNAs and at the haplotype level in particular.

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