

# THE STUDY OF GENETIC DIVERSITY OF GREY STEPPE CATTLE BREED BY ANALYZING THE CYTOCHROME B AND D-LOOP MITOCHONDRIAL MARKERS

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## Abstract

*The main purpose of this paper is to quantify the genetic variability of Grey Steppe cattle breed, by analysis of two mitochondrial markers (cytochrome b and mitochondrial control region d-loop), relevant for advanced studies of genetic diversity, phylogeny, molecular phylogeography and identification of taxonomic relationships of species representative of the Bovinae subfamily, using new molecular genetics techniques (isolation and purification of DNA by automatic extraction, quantification of total DNA by spectrophotometry technique, amplification of mitochondrial markers by PCR, validation of amplicons by electrophoresis technique, purification of DNA by columns, Sanger-type sequencing, nucleotide sequence analysis using complex statistical and molecular analysis programs). The results of this research, they come in addition to the existing information in the literature, with aspects regarding some uncertainties taxonomic, but also the highlighting of new information related to the evolutionary history of Grey Steppe, demonstrating at the same time the descent of this breed to *Bos taurus primigenius*.*

**Key words:** *Bos taurus primigenius*, mtDNA, phylogeny, gene sequencing