

Oral Session | 2. Genetics • Breeding

📅 Wed. Sep 18, 2024 2:40 PM - 3:30 PM JST | Wed. Sep 18, 2024 5:40 AM - 6:30 AM UTC 🏛️ Session VI(W322)

[VI-18] 遺伝・育種

Chair: Masaaki Taniguchi, Norihide Yokoi

2:50 PM - 3:00 PM JST | 5:50 AM - 6:00 AM UTC

[VI-18-18] Investigation of genetic variants related to economically important traits in Vietnamese swamp and Nepali river buffaloes

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The global demand for buffalo meat and milk is increasing, including Vietnam and Nepal. However, the native buffalo population is declining, which could be due to their poor reproductive efficiency and low growth rate. So far, there are no reports on the genetic traits responsible for improving desirable traits in Vietnamese swamp and Nepali river buffaloes. Our study thus aims to verify whether SNPs identified in cattle and buffalo related to economically important traits are present in these two buffalo subtypes. We genotyped 31 known SNPs in 48 buffaloes from each subtype by a Nanopore sequencer. All buffaloes fixed favorable alleles of 11 SNPs. A mutant allele of GH rs81109601, associated with improved carcass weight, was found in Vietnamese buffaloes. In contrast, Nepali buffaloes showed polymorphism in 9 loci (LEP rs382104217; MTNR1A g.29165305C>T; IGF2 g.130889296A>C, TRHDE g.118009732C>G; MEP1B g.37088710A>G, and LHB g.55044165A>G, g.55044064T>G, g.55044041G>A, g.55044029C>T) which related to high productivity and reproductive performance. These SNPs might used as genetic markers for selecting superior buffaloes with desirable traits.