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Genetic structure of Norwegian horse breeds

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The evaluation of the genetic structure of four native Norwegian horse breeds was investigated using 35 genetic markers including nine biochemical loci and 26 microsatellites. The proportion of genetic variation measured as heterozygosity and the number of alleles indicated high variation in Fjord Horse and Coldblooded Trotter, but somewhat reduced variation in Døle Horse. No clear signs of bottleneck effects were found in either of the breeds, but significant inbreeding estimates in Nordland/Lyngen Horse may indicate subdivision of this breed. Significant population differentiation was detected between all breeds, also between the recently diverged Døle Horse and Coldblooded Trotter. The principal component analysis supports the close genetic relationship between these two breeds.