

WA Horse Council News – Extract October 2011 Newsletter

LACK OF GENETIC DIVERSITY

An international team of researchers has used ancient DNA to produce compelling evidence that the lack of genetic diversity in modern stallions is the result of the domestication process. The published results suggest the almost complete absence of genetic diversity in modern male horses is not based on properties intrinsic to wild horses, but on the domestic process itself. Researchers sequenced Y chromosomal DNA from eight ancient wild horses dating back from around 15,000 to more than 47,000 years and a 2,800 year old domesticated horse. The results were compared to DNA sequences from Przewalski horses – the only surviving wild horse population – and 52 domestic horses, representing 15 modern breeds, which had been sequenced previously. Domestication of horses dates back approximately 5,500 years. DNA from the skeletal remains of a 2,800 year old domesticated stallion from Siberia, showed that in contrast to modern horses, Y chromosomal diversity still existed several thousand years after the initial domestication event for horses. The study was carried out in Germany by Sebastian Lippold from the Max Plank Institute for Evolutionary Anthropology in Leipzig.