7ᵀᴴ INTERNATIONAL VETERINARY CONGRESS

September 04-05, 2017 | Paris, France

Estimate of heritability of the PennHIP distraction index in working German shepherd dogs in New Zealand

A Tikekar, M Soo, V H Erceg, N Lopez Villalobos and A J Worth
NewZealand

Background: The reported success of the various subjective screening methods and selective breeding programmes against canine hip dysplasia (HD) has been limited and has often been less than that expected worldwide. It has been previously suggested that the PennHIP distraction index (DI) is a more reliable predictor of the genotype. Unpublished data report a moderate estimate of heritability for this trait. This would imply that selection and breeding strategies based on the PennHIP distraction index would result in more rapid genetic change per generation than current strategies based on subjective hip scores.

Aim: To investigate the heritability estimate of the PennHIP distraction index in working German Shepherds in a closed breeding colony.

Methods: An estimate of heritability for the PennHIP distraction index of individual German shepherd dogs were obtained using a linear animal model. The model included the fixed effects of gender, birth year, birth season, age at scoring and the random effect of animal and of the sire. The pedigree file included animals recorded between 2002 and 2016. A total of 195 records were available for evaluation.

Results: The estimate of heritability for the PennHIP distraction index in this population of German shepherds was 0.67±0.38 and 0.21±0.32 for the left and the right hips respectively.

Conclusions: The PennHIP distraction index has moderate heritability making it a feasible selection criterion for selective breeding programs aimed at producing genetic improvement in hip phenotype. However, these findings need to be verified with further studies in larger populations of breeds at risk.

aparnaht2012@gmail.com

J Vet Sci Technol, an open access journal
ISSN: 2157-7579

Veterinary 2017
September 04-05, 2017

Volume 8, Issue 4 (Suppl)

Page 118