Estimated Breeding Values (EBVs)

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Dr Todhunter tries to respond to your suggestions by improving the web site.

Use is Free

Financial donations are accepted to support the subsequent rounds of EBV calculations each year.

Each round is performed by a statistician, expert in software application and interpretation, who must curate and model the OFA data.

This process is not trivial. **Each new round costs about $5,000** to implement.

Donations can be sent to Ms. Carol Merkur, Department of Clinical Sciences, College of Veterinary Medicine, Cornell University, Ithaca, NY 14853. Please **earmark for "New Breeding Value Statistics"**. Thank you!

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Breeding trends of dog's OFA hip and elbow scores

- The OFA scores (a measure of the dog's hip or elbow conformation) that have been collected for almost 50 years have provided a selection criteria for dog breeders and buyers. However, the data that is available in the OFA database has been difficult to access by the dog-owning and dog-breeding members of the public.

- Here we summarize some salient points about breeding values and their application to improving OFA style hip scores. The explanation and methods that form the basis of the breeding values provided in the search page of this web site are available in this Yali Hou 2013 paper. A new paper is in progress.

- 'Breeding Value' in its earliest use was also called the 'Selection Index'. The selection index was based on the integration of genetic (pedigree relationships) and phenotypic information (OFA hip scores in our case) from each animal and its relatives and yielded better results than phenotypic selection alone for improving desired traits.

- Accuracy of the selection index of a subject increases when all the OFA scores from its close relatives (e.g. progeny and ancestors) are included in the estimation.

- The selection index developed into the Best Linear Unbiased Prediction (BLUP). The BLUP breeding strategy has been used successfully for genetic improvement, particularly in livestock, and has also been applied in closed colonies of dogs bred for service functions and can be applied to any trait, or several traits, that has a genetic basis.

- For more information about BLUP, please see Why Breeding Value.