THE RESEARCH OF PROFESSOR DISTL AT THE UNIVERSITY OF HANNOVER

The Norwegian Lundehund Club and it's breeding council are aware of the research professor Distl at the University of Hannover is conducting and we have a good contact with him through Dr. Claudia Melis (who is a Lundehund owner and geneticist in Norway).

Prof Distl's test identifies 2 genes that are likely to be involved in the predisposition for Intestinal lymphangiectasie. However, he himself states in his latest article: «*We assume that further genes might be involved in LS-development*». This is supported by the fact that a number of dogs that have tested negative in Distl's DNA test have later been diagnosed with IL and that the disease has many different expressions in its initial phases. Which of the genes involved that are the most aggressive/influential is not known at all. It might not be the ones that Distl has identified. Nor is the % of dogs in the breed that have these genes known. As the genetic variation in the breed is extremely low (about 12%, Ref Melis et al) it is, however, very unlikely that the number of dogs not carrying these genes are numerous, nor that there are any dogs that are not predisposed for developing IL at all. Thus, selecting breeding partners on the basis of this DNA test may in turn lead to increased occurrence of the ones not identified, and perhaps resulting in an even worse situation.

Also, a selection based on this test, will most certainly minimize the number of suitable dogs and combinations available for breeding, and giving a critically low number of litters and puppies to maintain the breed world wide. **We therefore do not recommend breeders of pure bred Lundehund to use this DNA test as a basis for selection of breeding combinations.**

The low genetic variation in the breed is the reason why the Norwegian Lundehund Club is currently undertaking an outcross project to see if the genetic variation can be increased while maintaining the original traits of the breed.
In this project, we will use DNA tests *in combination with other clinical studies* when evaluating the outcross puppies. The project is carried out in close cooperation with the Norwegian Kennel Club, the Norwegian Gene Resource Center and NordGen.

What is most important today, is to include as *many different individual dogs in different combinations* as possible, so that we do not lose more of the minute genetic variation of breed.
This article from 2016 describes the situation of the breed with respect to preservation of the genetic material in the breed:http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0170039