

## **Report Health Committee 2016**

It was a busy year for the Health Committee.

Much time was spent on the video. Due to busy schedules it took until this spring before we could make some adjustments to the existing film. The film is now completed except for some sound adjustments and the subtitles in German and French, which will be done by the end of this year.

For the researchers it is of the highest importance that the pedigree database is up to date and complete.

For breeders it is important that information on the mating activity of the males is available.

In order to keep the pedigree database up to date, contact was made with the German Club (Zuchtbuchamt) and the French club. They now send updates of their studbook every 2 months in a digital form. This way the information can be entered more efficiently and with less error probability in the database. In the meantime also Estonia, UK, Canada, Belgium, Switzerland, the Netherlands, Slovakia and the Moravian Club of Czech Republic send their studbook updates to the database.

From countries without an official Leonberger Club some breeders are giving the information.

The coming year more of the affiliated countries will be approached in order to investigate what the possibilities are.

At the ILU meeting 2015 the wish was expressed that it would be highly desirable that a way could be found to ensure the future availability and updating of the database. Ideal would be an ownership by the I.L.U. Wilma Kroon, owner of Leonberger-database, is prepared to work towards such a solution.

For the purpose of the DNA project a server host is needed, which preferably will be contracted by the ILU .

## **Update research Osteosarcoma & Hemangiosarcoma**

The Health Committee has been in contact with the University of Uppsala concerning the studies on Osteosarcoma and Hemangiosarcoma.

A report is attached and also the forms for sending samples.

## **Meeting with Bern**

A delegation of the Health Committee visited Prof. Drögemüller, Vetsuisse Bern on 27 May 2016

Participants: Wilma Kroon, Hein Sibrijns, Metha Stramer, Anita Treichler , Daniela Lutz, Ben Kroon.

Since about 8 years there is research on the genetic causes of polyneuropathy and the LPN2 test is available since July, 2014. The publication on LPN2 is in progress. Both LPN1 and 2 have similarities with Charcot-Marie-Tooth disease in humans . Therefore there is direct contact with human geneticists in Belgium and the USA who do research on these diseases in humans.

Currently there are 4600 blood samples from Leonbergers in the biobank of the Institute of Genetics at the University of Bern. For further research the medical (disease-specific) biography of the individual dog would be useful, in particular, the dogs with positive LPN result should be followed up.

Currently, research on Leukoencephalomyelopathie (LEMP), a disease of the central nervous system that primarily affects the spinal cord and later the brain, is expanded. The gene responsible has been localized on the canine chromosome 18. The current investigation status indicates that about 15% of the dogs are carriers (heterozygous) for this recessive mutation. Only homozygous affected animals which each have received a copy of the mutation from both parents will show symptoms. Due to the nature of the identified mutation, these results have not always lead to the outbreak of the disease in Leonbergers, but dogs with the homozygous genotype obviously have a very high risk of developing LEMP. It is an ancient mutation that cannot be assigned to a breeding line, but may be present in the breed for a long time. The gene test for LEMP is expected to be available in the first quarter of 2017, we are in the process of determining the frequency and distribution of the mutation by genotyping as many Leos as possible in more detail. A problem during the research has shown that a dog with LEMP was sometimes initially diagnosed as a LPN diseased dog. Generally, it is difficult to accurately diagnose slowly progressing neurological disorders at an early stage.

### **DNA Databank project**

We discussed some possibilities of a Database for researchers .

The health committee of the ILU will first start a pilot in association with Bern

The intention is to create an area on a server where a program is implemented to support research programs carried out by University Bern and later other research institutions.

Main purpose is the collection and yearly updating of health data of Leonberger dogs of whom DNA samples are available at the universities. Health updates will be provided by owners via a survey form, which will be stored directly in the Researcher's database and the health test results will also be added on a regular basis.

The collected data is only available for affiliated (partner)research institutions and is not public. They are the only ones who will have access to the data.

One of the objectives will be to filling up the gaps in the pedigrees and finding out to how many animals (founders)the Leonberger population goes back to; Dr. Drögemüller also pointed out that breeders should be discouraged in using the same studs too often. This would generally limit the potential spread of new mutations.

Possibly the new assistant at the Institute for Genetics will collect en check the data. First of all, there will be a repetition of the questionnaire, distributed in 2013.

(<http://halsoenkat.hunddna.slu.se/hq/Default.aspx>).

If the ILU sees no possibility to arrange a server , the university of Bern offers to set one up at the Institute of Genetics at the University of Bern, which would be financed, if possible, by the Union (ILU).

Technical support could be done by Wilma & Ben Kroon and Rob Lyon. Eventually a computer scientist at the University of Bern could provide technical assistance.

The pros and cons of several breed databases were discussed. The new Assistant of Dr. Drögemüller will visit Ben and Wilma in the autumn 2016 to discuss further possibilities.

## **Report Bern**

New research assistant for the Leonberger research

Anna Wolfova is since 15.8.2016 engaged as a doctoral student for probably 3 years, we have made many plans and we will try with assistance of Uppsala to restart the survey on health status (<http://halsoenkat.hunddna.slu.se/hq/Default.aspx>).

On initiative of Mrs Voichita Marinescu from the research group led by Kerstin Lindblad-Toh the study on Osteosarcoma is reactivated, thus fitting well with our plans. Then Anna Wolfova will travel in October for 3 weeks at St. Paul at the University of Minnesota to Katie Minor and Jim Mickelson, to establish a good basis for her three-year project.

At the end of October Anna will make a trip to Philadelphia to Doreen Becker is (she was in Bern significantly involved in LPN1 and LPN2 research) to preserve the contact and to benefit from the experience.

As discussed in May, after returning in November a trip to Holland will follow so Anna Wolfova can discuss personally with Wilma and Ben Kroon how we can implement the plans into action.

Finally, I do not want to leave unmentioned that donations from the clubs or ILU to finance these plans are always very welcome, we primarily use funds from genetic testing revenue, but those also have to cover for the laboratory costs.