



## NKU/VK (Scientific Committee) meeting 2022 – Minutes

**Time** March 30-31, 2022

**Place** Sweden, SKK

**Present** DKK: Britta Sørensen, Helle Friis Proschowsky  
FKK: Kaisa Metteri-Gold, Kirsi Sainio  
SKK: Helena Skarp, Sofia Malm Persson, Anna Björklund, Åke Hedhammar (Day 1),  
Tomas Bergström (Day 1), Anne Bucksch (Day 1)  
NKK: William Bredal, Kim Bellamy (on zoom), Nina Brogeland Laache, Renate Sjølie,  
Bettina Bachmann  
NKU X-ray panel: Jessica Ingman (Day 2 item 22)

**Meeting chair: Helena Skarp (SKK)**

**Meeting secretary: Sofia Malm Persson (SKK)**

### 1. Opening of the meeting

Welcome and short presentation of the participants. Some rearrangements were done to the agenda. Jessica Ingman, scrutinizer at SKK, will report from the NKU X-ray panel on March 31 at 10 am (item 22).

### 2. Organisational news from the national kennel clubs

DKK: Started a new department in Jutland, now three persons working there with e.g. courses and training. Large increase of number of registered dogs. More webinars and distance education during covid-19, will continue with online courses also after the pandemic. "Hundeuniversitetet", new online learning platform with all courses in the same place (e.g. breeders' education, online training). DKK celebrates their 125-year anniversary this year! In connection with this, broadcasting interviews related to DKK in 125 years, also about health issues. DKK will host the European dog show in 2023, and the HD-panel meeting in May this year. Last autumn, DKK held a meeting for all the boards of the Breed Clubs with a presentation about "mega trends", i.e. discussions on where is the opinion about dogs going in the society.

FKK: Registrations are going up, about 53,000 registrations in 2021. The pandemic situation has been challenging but FKK has managed well financially, not dependent on financial income from dog shows. FKK has sold its property but will stay on a rental basis for the next 3-4 years, after that they will move to a new location. The breeding department has had some changes in staff: Katariina Mäki has left and now works for IPFD, Johanna Kuru is leaving for Royal Canin. New people will be recruited. The new animal welfare legislation will be implemented from the beginning of 2023. The Finnish Food Authority will publish a new report this year about traits in dogs that cause health issues, e.g. chondrodysplasia. The brachycephalic breeds are being discussed a lot and popularity is going down for these breeds. Changes politically as Harri Lehkonen, the chair of FKK, will step down this year. In the near future, also the CEO (Markku Mähönen) will retire.

NKK: Also Norway had an increase in registration numbers during 2021. Difficult financial situation for NKK during covid-19, but is now improving and new people are being recruited. Rapid digitalisation resulting from the pandemic. Most employees are able to work part time from home,



more flexibility. A lot more digital webinars developed, e.g. mandatory course for veterinarians regarding hip and elbow screening. NKK is recruiting a new CEO, hopefully by the end of the year. One big project almost completed is that practitioners are now able to send x-rays digitally to NKK. "NKK academy" offering small digital courses for dog owners. The courses are currently for free, in the future maybe subscriptions to get access to more courses. The communication department started with a project regarding "reputation building". New legislation on dog breeding will probably be implemented in Norway this year. This legislation is more specific than §25 in the current legislation.

SKK: Registrations increased during the pandemic, about 63,000 puppies registered in 2021. X-rays about 18,000 for HD and 14,000 for ED. New CEO, Kees de Jong, since August 2021 and a new head of the board, Thomas Uneholt, since end of October 2021. In addition, a new head of IT-department and a newly recruited communicator. Department of breeding and health somewhat expanded, currently nine employees. Work with "vision 2030" has started and will be presented in 2023.

### **3. Minutes and Things-to-do from the last meeting held digitally, April 12 and 14, 2021**

#### **a. Minutes – Approval**

The minutes from the last meeting were approved.

#### **b. Things-to-do**

The things-to-do list was reviewed.

***Clarification: the secretary of NKU/VK should ask all countries for the X-ray appeal statistics in the beginning of each year.***

### **4. Decisions from the NKU/AU**

Minutes from the NKU/AU meeting in June and in November 2021 were reviewed. In addition, a meeting of the NKU/AU was held on March 28, no minutes were available.

### **5. Report from the FCI Scientific Commission**

Kirsi Sainio gave a short report from the FCI Scientific Commission. The commission is concerned about the large number of new breeds, mostly local, asking for recognition. One of the breeds currently discussed is the Continental bulldog. The commission recommends that the Continental bulldog should be allowed for crossing with the English bulldog. Kirsi encouraged NKU/VK to come up with suggestions for candidates for the commission. Kirsi will put the minutes from the commission on google drive.

### **6. Report from the FCI Breeding commission**

Kim Bellamy reported that she did not attend any meeting with the breeding commission since the last NKU/VK meeting.

### **7. Report on other FCI activities of relevance**

Åke Hedhammar shared information about FCI activities and other international conferences/activities. The FCI has adopted the RFG scheme for brachycephalic breeds as well as the BSI. Moreover, FCI will arrange a conference this autumn; the 1<sup>st</sup> FCI - FCM World Congress for Dog Health Welfare, on October 31<sup>st</sup>-November 2<sup>nd</sup>, 2022).



The World Small Animal Veterinary Association (WSAVA) has produced a video about BOAS. WSAVA has also made statements on extreme conformation and on DNA-testing for degenerative myelopathy (SOD1).

#### **8. Other international activities and conferences**

Kirsi Sainio informed about the upcoming International Dog Health Workshop (IDHW) on genetic diversity on May 3. The workshop will be virtual with presentations and discussions.

No date set yet for the next physical Dog Health Workshop, but there are plans to arrange it in August 2022.

Helena Skarp informed about the International Collaborative for Extreme Conformation in Dogs (ICECDogs) working group regarding extreme conformation in dogs. The initiative to this working group came from IDHW. Information about ICECDogs is to be found at [dogwellnet.com](http://dogwellnet.com).

#### **9. General update from each country regarding breeding and health issues**

##### **a. RAS**

NKK: Evaluating how to revise RAS documents. Revision has been postponed due to lack of IT-tools and covid-19. Needs to decide how to do it in an efficient way for clubs and the NKK office. In NKK, the clubs make a first draft, get feedback from NKK and then send a new version. Difficult to create a good enough document for some breed clubs. Unclear who has the final decision and responsibility for the document. New legislation might impose responsibility for creating breeding strategies on NKK.

DKK: Does not have RAS documents, not enough resources. Some breed clubs have made their own strategies.

FKK: Currently, 223 breeds have RAS documents, 175 of these have mandatory health programmes (RAS is mandatory for those breeds). An earlier member of the FKK scientific commission helps breed clubs to develop RAS documents. Quality of work in the breed clubs have improved during the last years, sometimes very ambitious (and too long) documents. RAS is valid for five years, after that the statistics (only) need to be updated. After ten years, a larger revision is required. New breeds need to have a RAS document in order to be recognised.

SKK: All breeds should have a RAS document (decided in 2001). Breed clubs are responsible for making the document. The breeding committee reviews all documents and decides if they can be accepted. A new guide/template for breed clubs has been developed by the breeding committee, will hopefully be published soon. Aim to make the documents easier to read and understand, and preferably shorter than is often the case today. Should be a clear summary of the main goals and recommendations in the beginning of the document. The clubs are welcome to contact the SKK office and the breeding committee for help and support early on in the process with RAS.

##### **b. BSI**

NKK: Has not taken any action yet, but in contact with SKK regarding the revision. Reports are sent to the NKK and registered, unclear if there is any follow up of the results.

DKK: No action during the last years. Lack of people using the data. Unclear who will work with the revision.



FKK: Communication with breed clubs regarding BSI. Unclear how the reports are used and who is analysing the results. Reports are sent to breed clubs, but some clubs seem unaware that they exist. System needed for analyses of the reports.

SKK: BSI reports are sent to SKK and copies are sent to the breed clubs who are expected analyse the reports and draw conclusions from the data. The clubs then have to report back to SKK. Revision started and all clubs, both listed and not listed breeds, got questions about BSI and whether they would like to stay in BSI or not. Rottweiler and Cane Corso would like to be listed in BSI. One breed, the Chinese crested dog, would like to be removed.

#### c. Behaviour/mentality

NKK: Mandatory mental test for Rottweiler since a couple of years.

DKK: Mandatory behaviour tests in some breeds.

FKK: Mandatory behaviour tests in some breeds. In addition, breeding inspections organised by the clubs also cover personality and behaviour. Kirsi Sainio will share a link to more information about these inspections.

SKK: BPH celebrates 10-year (started in 2012). In total almost 28,000 dogs assessed (297 different breeds participated). Increasingly popular. More than 4000 dogs assessed in 2021. Currently, 34 test sights, 60 observers and 80 test leaders. BPH was scientifically validated by Dr. Kenth Svartberg (publication in google drive). Mandatory behaviour test (MH) for all working dog breeds. Mandatory BPH in a few breeds (cane corso, ceskoslovensky vlcak, mastino napoletano, rafeiro do alentejo and saarlos wolfhound).

#### d. Cause of death – registrations

NKK: No mandatory registration but possible for dog owners to report that their dog has died. About 15,000 records. Diagnosis can be registered. Cause of death is not publicly available.

DKK: Possible for the dog owner to enter cause of death (drop-down menu). Publicly only stated that the dog is dead.

FKK: Has collected cause of death for a number of years. Breed statistics published online. About 150,000 dogs with known cause of death in the FKK database. Data should be included in RAS documents.

SKK: Launched registration of cause of death in 2021. Reported by the dog owner on a voluntary basis. Currently, more than 3000 dogs have been reported. Information for individual dogs is not official, but statistics on a breed basis can be used as guidance in breeding strategies.

#### e. Other breeding or health projects

NKU/VK discussed the issue of ensuring high quality and harmonisation of official health programmes and agreed on the following statement.

***Conclusion: NKU/VK recognises that a challenge related to health programmes is to ensure that veterinarians who are certified for some official health screening are up to date with the procedure and perform the examination/screening in a standardised and harmonised manner. NKU/VK sees a need for some kind of re-certification of veterinarians that do not perform regular screening, in order to keep their certification.***



## 10. Report from NKK regarding the lawsuit

NKK informed about the recent lawsuit in Norway regarding English bulldog and cavalier king Charles spaniel. NKK has appealed the judgement, both with respect to the application of the law and the assessment of the evidence.

## 11. Brachycephalic health issues

### a. Report from each country regarding health programmes and registrations

**DKK:** Currently no health programme for BOAS. DKK decided to implement the RFG scheme before the pandemic, but with covid-19 everything was put on hold. Two chief assessors from DKK will attend a course in May and an online programme for education will be started. Implementation of RFG scheme hopefully this autumn.

**FKK:** The FKK test is similar to the RFG scheme but also includes evaluation of heat resistance and a walking test (11 min). Screening implemented in agreement with breed clubs, with exception of the English bulldog. Registration numbers in English bulldog have decreased, may be due to strict health programmes for this breed, e.g. walking test and BOAS evaluation. On the contrary, Boston terrier is becoming more popular. Hundreds of results from the walking test currently registered with FKK. Pekingese needs longer time for the walking test than bulldogs, hence the walking test will be adjusted for this breed. Education of veterinarians done by the University of Helsinki, not by FKK.

**NKK:** Focus on BOAS. Started with the first course for veterinarians in August 2019, now have had three courses and about 100 veterinarians are certified for BOAS grading (however about 10% of vets are doing about 80% of the grading). Challenging to find dogs of several breeds and with various grades of BOAS for educational purposes. Currently, about 500 dogs graded and registered in the NKK database. Not allowed to breed on dogs with grade 3. Already see results and hope to exclude also dogs with grade 2 from breeding shortly. About 82% are grade 0 and 1 (English bulldog). Will soon be mandatory also to screen pug and French bulldog. FCI has asked NKK to help them arrange a BOAS conference in Oslo.

**SKK:** Registration of surgery and cases of death for brachycephalic breeds. The SKK health programme is very similar to the FKK screening with a walking test and measuring of the CFR (craniofacial ratio). Breed clubs wanted RFG scheme instead. SKK recently signed an agreement with the KC to implement RFG scheme. SKK will do both health programmes in parallel. Helena Skarp asked whether SKK and DKK might arrange a joint education of veterinarians in the south of Sweden. Ongoing work to define long-term goals and guidelines for breeding healthy brachycephalic breeds. Åke Hedhammar informed about the inventory performed in Sweden and about a survey sent to about 15,000 dog owners asking about their view on brachycephalic breeds. Data from the survey are currently being compiled.

### b. Further development (if any) regarding the Robinow-like syndrome

In 2019, NKU/AU commissioned NKU/VK to investigate the reliability and possible impact of the study by Mansour et al (2018) regarding the genetic background of Robinow-like syndrome in screw tailed dog breeds. NKU/VK sent their investigation and suggested actions to NKU/AU.

The study by Mansour et al (2018) showed that DVL2 mutation is fixed, or almost fixed, in Boston terrier, English bulldog and French bulldog. The study included 33 Bulldogs, 79 French bulldogs and 65 Boston terriers. They were all homozygous for the mutation, except six of the Boston terriers.



The mutation is present also in other breeds related to bulldogs, e.g. American Staffordshire terrier (Niskanen et al. 2021, Canine DVL2 variant contributes to brachycephalic phenotype and caudal vertebral anomalies). Knowledge regarding the impact of the DVL2 mutation on brachycephalic phenotype and vertebral abnormalities is increasing and a commercial DNA-test is available.

**Conclusion: NKU/VK has not received any new directions from NKU/AU regarding this issue.**

c. Current case in Sweden, English bulldog

Helena Skarp informed about a current case with English bulldogs reported by a veterinarian at a regular health check. The breeder was imposed by local authorities not to breed from these dogs due to respiratory problems and other health issues. The discrepancy between results at dog shows and results from veterinary checks regarding BOAS were discussed.

## 12. Cavalier king Charles spaniel – measures for improved health

a. Heart screening

Short update from each country on current heart screening for cavalier king Charles spaniel.

NKK: Mandatory screening for heart murmurs prior to mating utilizing auscultation has been introduced. Some adjustments made to the programme during the last year; i.e, dogs have to be three years old at first screening. Examination could be done by ultra sound (but only about ten veterinarians are approved to do this). Difficult to handle imported dogs with foreign results with respect to what results to approve.

DKK: Uses ultrasound for screening. Less than approximately ten dogs yearly with results excluding them for breeding. Both murmur and prolapse evaluated. The programme scientifically evaluated and shown to be effective. If clear at six years or older, the dog is approved for breeding throughout life.

FKK: Minimum age of 18 months, mandatory for both parents to be examined before breeding. If murmur, the dog has to be checked with ultrasound before breeding. Dogs need to be checked every 12 months, also at higher ages.

SKK: Mandatory heart screening before breeding, based on auscultation. The scheme was revised some years ago to make it more efficient. The dog has to be at least three years at first screening. Parents must have a normal result at five years of age for dogs to be used at three years of age. Else, the dog itself should have a normal result at five years of age. Males younger than 6 years of age can have maximum five litters. Dogs with no murmur at the age of eight can be used for breeding even if it gets a murmur later in life.

b. Syringomyelia (SM)

Short update from each country on strategies for dealing with SM in cavalier king Charles spaniel.

NKK: Currently no health programme.

FKK: Official screening programme based on MRI, on a voluntary basis. Has been discussed in the breed club to make it mandatory. However, MRI not available in all parts of the country. About 80 cavaliers screened last year.

DKK: Registers results from MRI scanning since some years back. Currently, 657 records of SM. DKK reluctant to make it mandatory as it is hard to find clinics for MRI scanning. Most breeders in



Denmark check their dogs before breeding. Screening done at a minimum of 18 months, then redone at an older age. Uses the scheme from UK for breeding recommendations.

SKK: No health programme for SM. The breed club will revise their RAS document; hence, strategies for dealing with SM to be discussed.

***Conclusion: NKU/VK recognises that a difficulty with SM is that the association between screening result and clinical symptoms is not fully understood. A change in skull shape would probably be beneficial.***

c. Other health issues

FKK: Screening for patellar luxation is mandatory.

DKK: DNA-testing for curly coat syndrome and episodic falling is mandatory. Challenging that a large part of the cavalier population is bred outside the DKK.

### 13. Aninova

a. Update from each country regarding status and agreements

NKK: Signed a letter of intent with Aninova and started a pilot project. Breed clubs have been involved in workshops and are very positive.

SKK: Had several meetings with Aninova and with NKK discussing this issue. Positive to collaboration with Aninova. Provided data for Norwegian elkhound as a pilot to see possible outcome. Also provided behaviour data from BPH.

DKK: Positive to the nice features. However, the DKK board rejected the proposal from Aninova. Possibly some legal issues with transfer of data.

FKK: Did not have any discussion about the issue.

Ownership of data was discussed and NKK clarified that they will still have ownership of data.

***Conclusion: Sofia Malm Persson offered to ask Marte Wetten at Aninova to invite FKK, and possibly DKK, to an introductory presentation. Later on, also the project leader at NKK (Cecilie Holgersen) could give a presentation.***

b. Ideas and suggestions of valuable tools and functions?

Any ideas and suggestions of tools and functions can be sent to Sofia Malm Persson who will put the information together.

### 14. Consequences from the conflict in Ukraine

The issue was not discussed, due to lack of time.

### 15. Registration of sable merle

Each country gave an update on current rules for registration of sable offspring from combinations of sable and merle dogs in e.g., collie and Shetland sheepdog. SKK is in the process of revising the rules. In DKK, the collie breed club does not want the offspring to be registered as sable merles as it is not an approved colour in the standard. NKK registers collie offspring from matings between merle and sable dogs as sable merles. Sable merle dogs are marked as non-approved colour.



Moreover, there was a discussion regarding the DNA-test for merle and the various alleles defined based on the length of the insertion. Laboklin reports the following alleles on the M-locus: Mh (harlequin merle), M (classic merle), Ma+ and Ma (atypical merle), Mc+ and Mc (cryptic merle) and m (non-merle). Cryptic merle (Mc) is a short version of the merle insertion with no direct effect on the coat colour. Laboklin states that according to the actual state of knowledge cryptic merle is not associated with health problems. FKK reported that the collie club wants to be able to use some varieties of merle dogs, i.e., Mc, to mate with other merle dogs. SKK defines all varieties of merle, also Mc, as merle. Hence, Mc dogs are not allowed to be mated with other merle dogs in Sweden.

**Conclusion: It was concluded that DNA-testing for merle is complex and there is more to be learnt. To avoid the risk of producing offspring with health issues related to merle, in general one should be careful to mate dogs with any of the merle alleles to other merle dogs.**

## 16. Limitations in breeding with respect to coat colour

### a. General discussion/statement

FKK: No limitations in registration based on coat colour, except for merle x merle matings.

SKK: Used to have some limitations related to coat colour in a few breeds. The breeding committee removed these some years ago with reference to the SKK Breeding Policy, stating that restrictions not related to soundness should be avoided in order to keep a wider gene pool. However, at the general assembly it was decided to reintroduce the possibility of limitations related to “wrong coat colour”.

DKK: Has two different categories for dogs with wrong colours. One category for colours that are a disqualifying fault according to the standard. Only those are excluded from breeding.

It is stated in the FCI Breeding Rules that “Dogs with eliminating faults such as e.g. unsound temperament, congenital deafness or blindness, hare-lip, cleft palate, substantial dental defects or jaw anomalies, PRA, epilepsy, cryptorchidism, monorchidism, albinism, improper coat colours or diagnosed severe hip dysplasia may not be bred.”

**Statement: NKU/VK would like to emphasise that improper coat colour should not be considered an eliminating fault that excludes dogs from breeding. Except for colours associated with health issues, e.g. merle.**

**Proposal to NKU/AU: NKU/VK asks the NKU/AU to send an enquiry to FCI to rule out improper coat colours as an eliminating fault in the FCI Breeding Rules.**

### b. Parti-coloured poodles

SKK: The breed club wants to ban breeding from parti-coloured poodles as well as offspring from parti-coloured poodles. No decision taken yet.

DKK: Parti-coloured poodles are registered in the appendix registry and compete in an own class at dog shows.

FKK: Registers parti-coloured poodles in the normal studbook.

NKK: Registers parti-coloured poodles in the normal studbook.





## 17. Genetic diversity

### a. Report from meetings in working group and discussions in the DNA-group

The working group had broad discussions on issues like importance of genetic diversity, possibilities to make some joint Nordic research project related to genetic diversity, possible statement from the NKU/VK related to genetic diversity.

### b. Plans and strategies for the future.

NKU/VK intends to continue working with these issues and to write a document with information and policy regarding genetic diversity in dog breeding. The working group will have their next (digital) meeting on May 5 at 10 am-12 am.

A google document with questions to be dealt with in a Nordic strategy regarding genetic diversity has been created and responsibility for various issues was distributed to the participants (noted in the Google document).

NKU/VK would like to make the following statement regarding the importance of genetic diversity in dogs.

***Statement: NKU/VK would like to emphasize the importance of genetic diversity in dog breeding. Selection for desired traits as well as management of genetic diseases require enough genetic variation in the gene pool of each breed. Hence, genetic diversity is a prerequisite for long-term sustainable breeding and considered by the NKU/VK to be the single most important issue in dog breeding.***

***Recently published scientific studies, based on analyses of molecular genetic information, indicate that levels of genomic inbreeding are very high in many breeds. In addition, several breeds suffer from welfare problems related to inbreeding, such as impaired fertility or health issues. This highlights that shortage of genetic diversity is a highly relevant topic in many breeds.***

***The committee has identified a need to develop recommendations and strategies related to management of genetic diversity, e.g. guidelines for application of new tools such as genomic inbreeding coefficients and estimates of average relationship (släktskapsindex). Moreover, NKU/VK would like to stress the importance of breed clubs working together to broaden the gene pool and exchange experiences and information.***

## 18. Breed crosses and open studbooks

### a. Update from each country on current projects

FKK: the French bulldog club has accepted to be involved in the cross-breeding project. Breeds chosen for crossing are papillon, American Staffordshire terrier and jack Russell terrier. In addition, the breed clubs for dobermann, cavalier and some other breeds are interested in crossing. Crossbreeds will be registered in a separate registry. FKK recently produced a short and informative film on cross-breeding, entitled "What is crossbreeding and how can it be used in dog breeding?". The film is published on YouTube.

NKK: the Norwegian lundehund project is still ongoing moving into phase two. NKK awaits a new plan for introduction of the cross-breeds into the studbook.

SKK: Several breed clubs have expressed interest in breed-crosses, e.g., field spaniel, white shepherd and white elkhound. Nothing new with respect to the Swedish hounds (stövare); the Breeding Committee will contact the concerned clubs for continued discussions.

### b. Routines for registration of breed crosses



Discussion postponed to next meeting. Information on routines shared on Google drive.

c. Breed crosses vs open studbooks, general discussion

Discussion on the topic of breed crosses and open studbooks. The following statement was made.

***Statement: Breed crosses and open studbooks is an important topic considering the low genetic diversity and health issues in some breeds. Many dog breeds could potentially benefit from having new genetic material added to their gene pool, either to increase genetic diversity in general, and/or to improve the situation with respect to specific diseases or morphological traits that are hard or impossible to improve within the existing population. Inter-breed matings have been used throughout the history of dog breeding. Despite this, outcross projects are considered very controversial by some breed clubs and breeders. Even in breeds where the potential for improvement is obvious, outcrossing is avoided. NKU/VK intends to continue work with this matter to support breed clubs and increase the acceptance for controlled and well-planned inter-breed matings and open studbooks, aiming at improved health and longevity in dog breeds.***

#### **19. Breeds and varieties/recognition of new breeds**

The Black spitz was newly recognised by DKK. The Polish hunting spaniel was recently recognised by SKK (approved for registration and participation in competitions, not for breeding).

#### **20. Harmonizing practices regarding "inmönstring" in Nordic breeds**

This issue was not covered due to lack of time.

#### **21. Hip and Elbow Dysplasia**

a. International seminar on HD in Copenhagen on May 24

Åke Hedhammar informed that the planning for the seminar is moving forward.

b. News from SKK – decisions at general assembly in 2021

Several decisions at the SKK general assembly in 2021 concerned HD. For example, the assembly decided that SKK should accept all hip results from other EU countries for registration. Still a bit unclear exactly what this implies, the decision has not yet been implemented.

DKK informed that Danish owned dogs need to have a requisition from DKK, even if the examination is done in another country. Moreover, DKK takes into account in prediction of EBVs (HD-index) if the result is a foreign result or a Danish result.

c. Registration of clinical cases of ED

SKK has introduced registration of clinical cases of ED. A large proportion of dogs affected by ED get clinical problems before the age of official screening (12 months). Hence, the current screening programme risks missing dogs affected by ED at a young age. Registration of clinical cases, in addition to screening records, enables a more efficient evaluation and selection.

FKK: Registers clinical cases of ED as unofficial grade 3. Results are not included in the prediction of breeding values.



DKK: Results for dogs with clinical ED are registered as “operated/euthanized due to severe ED”

NKK: Registers clinical cases of both HD and ED. If severe dysplasia, these are graded as grade 3 (ED) or grade D or E (HD). Non severe grades are not registered. However, owners are encouraged to have their dog re-examined when it reaches official screening age.

d. Increase in dogs with HD grade C

DKK informed about an ongoing discussion in Denmark regarding increase in the proportion of dogs with HD grade C. This increase is not caused by a genetic effect (the population is not getting worse), but rather an effect of environmental factors (e.g. technical improvements that enables scrutinizers to detect more cases of HD, get more X-rays per dog, changes in sedation routines etc.). Similar discussions exist also in Sweden and Norway. SKK and NKK have both done investigations into this matter and the reports were published some years ago.

Discussions on how this issue should be handled in a good way.

***Decision: NKU/VK would like to make a statement and some clarifications regarding the aims and limitations of HD screening together with the NKU X-ray appeal panel. Helle Friis Proschowsky, Sofia Malm Persson and William Bredal was given the task to ask the X-ray appeal panel if one or two persons would like to be included in a working group on this issue. Moreover, NKU/VK would like to emphasize that the main purpose of screening for HD is to reduce the proportion of dogs with clinical issues.***

## 22. Report from the HD/ED X-ray panel

a. Report from meetings, Jessica Ingman

Sweden has the chair in 2022-2024. Usually two meetings yearly, more often if needed, e.g. to discuss certain cases.

b. Chondrodystrophic breeds, updated list

The screening procedure for ED is defined to diagnose the typical ED diseases and can result in erroneous diagnosis if applied to chondrodystrophic breeds. An initial list of breeds compiled in 2016, revised in 2021. NKU/VK has delegated to the X-ray panel the responsibility of updating and maintaining this list of breeds. The panel informs the NKU/VK secretariat within two weeks after meetings of X-ray panel where changes to the list have been made. The kennel clubs then incorporate the changes the following January 1<sup>st</sup> or July 1<sup>st</sup>. The list has not been changed since 2021. The list is attached as an appendix to the Facts & Procedures.

c. Review of compilation of appeal cases

Jessica Ingman went through the appeal statistics for each country from 2021. About 80% of the dogs get the same diagnosis after appeal (according to statistics from 2019-2021).

NKU/VK will ask each country's office to email the appeal statistics from the previous year to the chair of the NKU X-ray panel meeting first week of January. Appeal cases will be analysed and discussed by the X-ray appeal panel at the second meeting each year, i.e. in the autumn, and an oral summary of the analysis reported back to the following NKU/VK meeting.

d. Facts & Procedures

The X-ray appeal panel compiles a memorandum of their meetings as a document called “Facts & Procedures”, distributed to NKU/VK and to the kennel club offices. The document also contains



statistics on the number of X-rays during the last three years, as well as the number of appeals to the panel.

Jessica Ingman went through the document compiled in February 2022. Tanja Vedel Jensen new scrutinizer in DKK (both HD and ED). Last year Kami Turunen started in FKK. The screening appeal panel for IVDD will form a subgroup within the NKU X-ray appeal panel. This group will create their own Facts & Procedures document. The X-ray panel will create a new document with recommendations on how to train new scrutinizers. When finished, this document will be added to the Facts & Procedures document.

e. Complaint regarding X-ray panel appeal process

NKU/VK has received a complaint made to NKU/AU, from a Finnish breeder claiming that the names of all the scrutinizers who reviewed X-rays in an appeal case and their personal results should be made available to the dog owner.

The X-ray appeal panel decided in August 2016 that after the grades given by the panellists have been compiled in an appeal case, the dog owner receives only the final result, and not the individual diagnoses from the different countries (Facts & Procedures 2022, 3.1).

***Decision and proposal to NKU/AU: NKU/VK fully supports the decision and view of the NKU X-ray appeal panel. The NKU/VK has great confidence in the X-ray appeal panel and proposes to NKU/AU to continue according to the current routine.***

### **23. Eye examinations – ECVO**

Helena Skarp and Anna Björklund informed shortly about the current project regarding a common database for ECVO (European College of Veterinary Ophthalmologists) eye examinations. If the project goes ahead, veterinarians will be able to put the data into a common database at examination. Each kennel club can import the data directly. The advantage of this system is largest for countries that have not yet developed their own online systems for eye examinations, e.g., SKK. However, a benefit for all countries would be the possibility to gather all eye examination results, from various countries, in a common database. Implementation would likely imply some legal issues and needs for IT-development in order to import data.

### **24. Patellar luxation**

The issue of harmonization of screening for patellar luxation was discussed in 2021.

***Decision: To move forward, NKU/VK decided to form a working group with the aim to seek harmonization in screening protocols, scrutinizer calibration and appeal procedures. Included in the working group are William Bredal (convener), Sofia Malm Persson, Helle Friis Proschowsky and possibly someone from FKK.***

### **25. IVDD in Dachshunds**

a. Decision from NKU/AU regarding X-ray panel (NKU/AU, June 2, 2021, 7/21)

NKU/AU approved the NKU/VK proposal regarding harmonization of calibration and appeal of IVDD (intervertebral disc disease) X-ray screening. An IVDD subgroup has been formed within the X-ray appeal panel. The group will have a meeting on April 5.



**Decision: NKU/VK asks the IVDD group to give a yearly written report, similar to the statistics compiled for HD and ED. Helle Friis Proschowsky offered to communicate this matter with the group, and to ask if they may include breeds other than dachshunds, e.g. coton de tulear.**

b. Update from each country

SKK introduced screening for IVDD in dachshund last year. DKK and NKK started IVDD screening also for coton de tulear in 2021. FKK will probably include sky terriers shortly. DKK does not predict breeding values for IVDD in coton de tulear, only in dachshund.

**26. EU regulation regarding import/export of semen**

Nothing new to report on this issue. The situation is still problematic.

**27. Vaccination-rules for show-dogs**

SKK recently adopted rules for the next five-year period. FKK regulations come directly from the food authority, hence FKK has limited influence. DKK changed their rules about a year ago, have adjusted the rules to harmonize with the WSAVA vaccination recommendations. Only DKK accepts titer tests.

**Conclusion: NKU/VK concludes that harmonisation of vaccination-rules in the Nordic countries is difficult. The committee will continue to share information in order to keep informed.**

**28. Rules for pregnant bitches to participate in dog shows**

In SKK and FKK, pregnant bitches may not participate in competitions/dog shows 30 days or less before whelping, and has to wait 75 days after giving birth.

It is hard to know what day the bitch will give birth. Would be easier for the breeder to count the number of days from the first mating. NKK is planning to change the wording and base limitation on days after first mating instead.

**Decision: To harmonize within the Nordic countries, NKU/VK suggests a change in wording in this rule stating that a pregnant bitch may not participate in competitions and trials later than 33 days after the first mating.**

For BPH, there are other rules. Bitches may not participate in behaviour assessment after mating.

**29. Report from the DNA-group**

The meeting of the DNA group was held on Tuesday March 29. Most participants in NKU/VK attended the meeting. Hence, no report was given.

**30. Report from the Index-group**

a. General update from each country

FKK: Katariina Mäki, who was in charge of EBVs (index) in Finland, has ended her position at FKK. A new person has been contacted to assist with prediction of EBVs. EBVs for spondylosis in boxers, would also like EBVs for other vertebral diseases. Some new breeds will get EBVs for ED.



SKK: Currently 44 breeds with EBVs for HD and 17 breeds with EBVs for ED. No new breeds added last year.

The frequency of routine genetic evaluation was discussed. DKK updates once a month, NKK updates five times a year and SKK updates once a week. FKK currently updates every second week, but is planning for EBVs to be updated daily.

Criteria for including new breeds were compared. NKK requires at least 100 new registered puppies yearly for the last five years, and at least 25% X-rayed. The breed clubs themselves asks to get EBVs. DKK requires at least 50 dogs X-rayed per year, but does not automatically exclude breeds that may have a decreasing number of X-rayed dogs. SKK has no strict threshold but there has to be “enough data”, approximately 50 dogs. Breed clubs who wants EBVs can apply to the SKK breeding committee.

b. Short update on index for behaviour (mentalindex) (SKK)

Sofia gave a short update on the pilot project with EBVs for behaviour (mentalindex) based on the BPH and the MH. EBVs for behaviour in Rhodesian ridgeback, based on BPH, will be published shortly (this spring) on the breed club website. EBVs will be published for several aggregated “personality traits”: sociality, playfulness, non-social fearfulness, threat/aggression and social security.

BPH analyses for breeds with 200 and 500 dogs assessed, respectively, are published for each breed on the SKK website.

**31. Any other business**

a. The NKU website, what should be included?

NKU/VK looked at the NKU website and identified some changes to be made regarding participants in the working groups (DNA and index group).

***Decision and proposal to NKU/AU: NKU/VK decided that statements from later years should be added to the NKU website. Moreover, NKU/VK would like to notify NKU/AU that the information about BOAS could be more extensive.***

b. Communication and sharing of information

SKK suggests to shift from google drive to google sites. Makes it easier to have nicely structured agendas with documents attached to each item.

Communication and sharing of information in between meetings would be enhanced by a common chat group. NKK will create a chat group in Teams. For example, it would be useful to share information about webinars, conferences or other activities open to participants of NKU/VK

c. Sharing of kennel club magazines

Each country was encouraged to update their list of distribution so that each office will get one copy of the other kennel clubs' magazine.



d. Dog mentality working group

***Decision and proposal to NKU/AU: Mental health is an important part of overall health in dog breeds. In addition, the introduction of EBVs for behaviour (mentalindex) has raised the matter as it creates common issues with respect to genetic evaluation and selection. NKU/VK would like to create a working group for behaviour and mentality in dogs and decided to forward this suggestion to NKU/AU.***

**32. Next meeting**

Preliminary date for next meeting was set to March 21-23 in Denmark. The DNA-group will meet on March 21 and NKU/VK on March 22-23.