The Dachshund Breed Council

Health Report 2013

Prepared by the Breed Council's Health and Welfare Sub-committee

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www.dachshundbreedcouncil.org.uk

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The Dachshund Breed Council

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Chairman's Introduction

2013 was another busy and successful year for the UK Dachshund Breed Council Health and Welfare Sub-Committee.

In November the Karlton Index and Kennel Club Breed Health Awards were presented at Discover Dogs. The Dachshund Breed Council took the award for top breed in 2013 and also received the award for Leadership in breed health.

The award for individual achievement went to Ian Seath, Chairman of the DBC. There were 4 nominees for this award, including Gill Key, one of our Pet Advisors, for her campaign to raise awareness of Lafora disease.

The work of the DBC is a team effort, but it's Ian’s energy and stamina and innovation that helps us make a difference for Dachshunds.

Helga Klausgraber joined the sub-committee in the summer as one of our Pet Advisors, bringing the number up to three.

Toronto Children’s Hospital have now developed a successful DNA test for Lafora disease that can differentiate between affected, carrier and clear dogs. The nature of the Lafora mutation caused the difficulties experienced last year and the test is now carried out on blood samples using the Southern blot test rather than a PCR based technique. Current results show that the Lafora mutation seems quite widespread in the Miniature Wire population, although this might change as more results become available. If the proportion of dogs with the mutation stays at the current level the Animal Health Trust would advocate that breeders should continue to use carriers in their breeding programmes for the time being to avoid restricting the breed’s gene pool.

Gill Key, one of our Pet Advisors, is working on the Lafora Progression Survey with veterinary surgeon Clare Rusbridge. Any dog whose test gives an affected result for Lafora disease is followed up at regular intervals. This will give us a more complete picture of the progression of this disease.

Steady progress is being made in reducing the number of Miniature Dachshunds with the cord1 PRA mutation. Miniature Longs show the greatest reduction, probably because testing of this breed has been carried out for longer than in Miniature Smooths and Miniature Wires breeds. Preliminary screening has been started in Miniature Longs in order to investigate the prevalence and severity of distichiasis.

Samples are still being collected for the IVDD research project to develop a genetic test for this condition. This work is especially important as the Scandinavian approach, using X-rays to identify disc calcifications, is making slow progress.

A research paper from the RVC on back disease this year showed that the longer a Dachshund’s back length the higher the risk of disc disease. This work supports the change to the breed standard to reduce the back length, and this should therefore help to reduce the number of dogs with this serious problem.

It must not be forgotten that there is an increased risk of back problems with increasing levels of obesity – so veterinary advice is for us all to keep our Dachshunds slim (but not thin)!
Osteogenesis imperfecta, is a genetic condition of Wire Haired Dachshunds (mainly) that prevents normal bone growth and causes death in the first few weeks of life. It came to our attention this year with a paper in the Veterinary Record which discussed the disease and its frequency on the Continent, especially Germany. Shortly after this, a French DNA laboratory offered a diagnostic test for it to us. No cases have yet been reported in the UK but we will be setting up a research screening exercise to see if the mutation is present here.

In the autumn a communication was received from the Royal Veterinary College about a Dachshund that they had seen with a liver shunt. Although this is an uncommon condition, occasional unrelated cases are seen. It is thought that this abnormality may have a number of probable causes. In Dachshunds at the present time it would seem that the incidence of liver shunt is probably due to sporadic developmental defects rather than inherited traits.

I hope you find this year’s Health Report interesting and useful.

Roger Sainsbury
BVM&S MRCVS
1. Leadership

1.1 Health and Welfare Sub-committee

The Breed Council represents the interests of eighteen UK Dachshund Breed Clubs and has appointed a Health and Welfare Sub-committee to develop policies and coordinate plans for breed health improvement. Members of the Sub-committee are Roger Sainsbury BVM&S MRCVS (Chairman), Helen Geeson, Charles Hipkin, Sue Holt, Nora Price, Gina Salisbury, Ian Seath and Judy Squires. In addition, Gill Key, Emma Newman and Helga Klausgraber are Pet Advisors to the Sub-committee.

Helga Klausgraber was appointed as our third Pet Advisor in 2013.

Other Clubs and individuals take the lead on specific projects within our Health Plan; for example the Wirehaired Dachshund Club leads on Lafora Disease and the Miniature Dachshund Club leads on cord1 PRA and Distichiasis.

In October 2013, Roger Sainsbury attended the Kennel Club's Health Coordinator Seminar, to represent the Breed Council.

Gill Key and Ian Seath were both nominated for Individual Awards in the Karlton Index Breed Health Awards 2013.

H&W Sub-committee contact details can be found here.

1.2 Pet Advisors’ Report

Prepared by Gill Key, Emma Newman and Helga Klausgraber:

Earlier this summer, Helga Klausgraber was recruited as the 3rd Pet Advisor. Between us, we have owned mini smooths, mini longs, mini wires and standard smooths, and personal experience of and interest in IVDD, Cancer, Lafora, Cord1 PRA, implications of dapple breeding and skin allergies.

Pet Advisor responsibilities cover 4 key areas:

- Ensuring pet owners’ views and concerns are represented by and to the DBC
- Helping ensure Pet Owners are directed towards sources of high quality advice (mostly http://www.dachshundhealth.org.uk/ and http://dachshundbreedcouncil.org.uk)
- Help raise awareness of pitfalls of puppy buying, thus reducing market for non-health tested, unhealthy, or poor temperament dogs.
- To encourage fund-raising amongst Pet Owners to support ongoing work of the Health and Welfare committee and related research projects.

The increasingly important role of the internet

The annual Ofcom Communications report (published August 2013) shows that 80% of households now have broadband and 49% of adults have access to mobile internet. On average, almost 90 minutes per week is spent accessing social networking sites and emails or using a mobile to access the internet.

“Our research reveals that in just a few short years, new technology has fundamentally changed the way that we communicate. Talking face to face or on the phone are no longer the most common ways for us to interact with each other. ‘In their place, newer forms of communications are emerging which don’t require us to talk to each other especially among younger age groups. This trend is set to continue as technology advances and we move further into the digital age.’

James Thickett, Ofcom’s Director of Research
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Breeders must recognise that resources such as Facebook, forums, instant messaging, online newsletters and websites mean that pet owners are not only far more informed but can now organise themselves. This can be of great benefit e.g. over £10,000 for IVDD research was raised in less than 6 months through a Facebook campaign by an owner of a dog with congenital problems; spreading information about responsible puppy buying and owning etc. but equally there can be downsides, e.g. misinformation or misunderstanding stated as fact. It is crucial therefore that the Dachshund Breed Council ensures not only that information available to pet owners is of the highest quality and as easy to access as possible, but that they take a lead in helping breeders recognise that they can no longer afford to ignore it.

This brief extract from a recent Facebook post by a groomer who sees hundreds of dogs of all breeds, referring to the ongoing practice of breeding mini wires without Lafora testing, gives a clear message: “Just as the grooming industry has changed dramatically so has pet ownership and people HAVE to move with the times. Pet owners very often get a bad name and sure, you always get to hear about the bad, but there is a HUGE swathe of them that put the welfare of their dog first ALWAYS, whether that involves keeping the dog in a trim different to breed style for ease of maintenance or by ensuring they do EVERYTHING in their power to insist on the good health of their dog. I have a client with a pet mini wire and she wants to breed and she won’t even entertain it without testing. I can’t tell you how mad it makes me that THEY (pet owners) are the ones leading by example. No one can use cost as an issue (it costs far more to have all the health testing on our Labradors). If you can’t afford to test then you can’t afford to breed END OF STORY. A particular client of mine bought a mini wire from another very well-known breeder and was told ‘it wasn’t a problem’. She had done some research, but ultimately believed what this well-known breeder told her. However looking at the status her dog is highly likely to be affected (at very least a carrier). I am encouraging her to go for testing in January. This dog was bought AFTER the testing was up and running. I can honestly say if she does and this dog is found to be affected she WILL be looking legally for answers”

Current concerns/actions noted amongst Pet Owners on Facebook and other social media, face to face, text and ‘phone conversations re:

- rights and wrongs of ‘rescuing’ older dogs, especially from puppy farms/breeders who keep dogs in poor conditions
- what defines a puppy farm v a breeder who keep dogs in poor conditions
- consequences of breeding without proper knowledge of genetics and producing healthy, well-adjusted dogs
- link between aggressive behaviour to other dogs/humans and poor socialisation when young
- back problems and the possibility of a genetic component – great interest in the AHT project and some references to Scandinavian research, e.g. http://www.ufaw.org.uk/intervertebraldicdiseasedachshunds.php
- apparent higher value that pet owners put on long term health than some show-ers/large breeders, e.g. more pet owners are having dogs Lafora tested than breeders
- questions about exactly how much and how the money raised through pet owner fund-raising efforts such as last year’s Dachshund Walk in London and the Winny Minny fund for the DBC health and Welfare Fund is/will be spent.

Obviously pet owners also have a huge responsibility for their buying and owning practices but, in summary, many conversations touch on, or centre around, the consequences of breeding without knowledge or care of the consequences to the eventual pet owners.

Proposals

1) Raise profile as leading authority on dachshund health, welfare and all things dachshund as high as possible by increasing the Dachshund Breed Council site and Health and Welfare sub-website presence on Google. On a search on ‘dachshunds UK’, the DBC main site is below pets4homes.co.uk; dachshundclub.co.uk; devotedtodachshunds.co.uk and

[Redacted URLs]
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dogsandpuppies.co.uk: Whilst it is unlikely that the Council will be able to compete financially with commercial puppy buying sites can the DBC take a leaf out of the Dachshund Club and Devoted to Dachshunds books?

2) Use the Dachshund Breed Council newsletter (970+ subscribers) and active Facebook presence to help support changing puppy buying behaviour across all breeds, e.g. publicise Mark Abraham’s e-Petition [http://petitions.direct.gov.uk/petitions/49528](http://petitions.direct.gov.uk/petitions/49528)

3) Each Pet Advisor to take on responsibility for monitoring one or more of the main internet puppy buying sites for:

   1. ‘wanted’ ads posted by prospective pet owners, writing to them to notify them of DBC resources providing advice

   2. noting frequency of adverts from the same address, particularly where there is no reference to any health testing and collating information onto one database (possibly googledocs based) for possible future action

4) Pet Advisors to use own contacts to spread the word across the pet owner network when samples/specimen/swabs etc. from pet dogs are required for research
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5) Pet Advisors to explore the idea of a day of regional novel non-showing events (e.g. dachshund racing), promoted via internet sites as above that will attract press coverage, promote the concept of healthy, happy, ‘fit for purpose’ dogs, build community participation and raise funds for the Health and Welfare Fund

6) To encourage pet owners’ participation in both fund-raising and research initiatives, it would be helpful to have a clear Health and Welfare Fund annual statement easily accessible showing exactly how funding raised has been spent and the outcome

7) The Laforadogs Progression Survey, developed in 2013 in conjunction with Clare Rusbridge, is beginning to produce some useful factual information that helps to counter previous misinformation or misunderstanding about the condition. Given the incidence of pets’ back problems reported on Facebook and the subsequent huge concern expressed, there may well be mileage in harnessing that enthusiasm to support research in other areas, for example:

8) Although the AHT DNA research is promising, it will be years before results are available. Pet owners are aware of the Scandinavian research on the link between calcified discs present in dogs less than 2 years old and later back problems, including: http://www.ufaw.org.uk/intervertebraldicdiseasedachshunds.php.

9) There are obvious barriers to acceptance of such an approach amongst the active breeding/showing community: no breeding before an x-ray at 2 (reduced number of litters, sedation risks, higher vet costs). However there may be potential to engage pet owners (and others) in a small research project exploring the impact of the Scandinavian model, consecutively to the AHT DNA research. In outline, this would involve owners intending to breed following the approach and recording results of X-rays and subsequent incidence of IVDD, alongside a control population of breeders following current practice. This would require the setting up of a database of participants and monitoring progress, perhaps via an online recording process. Helga, who has a medical background and considerable knowledge of IVDD, has volunteered to assist with this but feels it is crucial to have specialist veterinary support to ensure better take up and to add credence to the results. In addition, given she is emigrating to Australia next year, she would need at least one other knowledgeable supporter from within the DBC Health and Welfare Committee to work with her.

10) Finally, there is growing awareness that there is a disconnect between active show-ers, who naturally are keen to breed a prospective Champion and are therefore willing to take risks by breeding without taking due consideration of known health issues, as is evidenced by the Lafora testing team’s report on the latest Breed Supplements. In particular, the Supplements demonstrate the hugely disproportionate influence that popular sires, particularly Champion sires, exert on the gene pool. Building on comments by the Karlton Index awards panel that the Dachshund Breed Council are an ‘invaluable role model’ and ‘a real inspiration to others’, we propose that the Dachshund Breed Council put forward the following concept to the Kennel Club:

“That Breed Clubs or Councils from any recognised breed can, at any time, request that a restriction be put in place that to achieve Champion Status, a dog must have certified known status for a specific priority health condition, nominated by the Breed Club in question. This would be up to the individual Breed Club to request and at any time the restriction can also be withdrawn on application by the relevant Breed Club.”

We must stress that this initiative would not just apply to Lafora testing. This is a proposal that could be applied to ANY current high priority health issue that can be DNA tested or otherwise certificated by a vet in ANY breed. The onus would be on the breed club or council to approach the Kennel Club. The proposal does not mean
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that the Champion dog cannot be used for future breeding, and does not therefore have implications on removing excellent specimens from the gene pool, but it does help ensure that better information is available to inform responsible breeding practices.

[Note: the proposal in item 11 above, made by the Pet Advisors, was raised at the Nov. 2013 Breed Council meeting and all clubs have been asked to seek their committees' views, for discussion at the next Council meeting.

1.3 Health Fund

The year-end balance in the Health Fund was £6,700.

We've had some amazing support for our Health Fund which was established at the end of 2011 and we want to mention and acknowledge three particular supporters.

In Spring 2013, Jane Bell and Denise Baumann from 'Madaboutdachshunds.com' organised a sponsored Sausage Stroll and raised over £1400 for our Back Disease research project. Also in the Spring, Helga Klausgraber who is now one of our Pet Advisors, organised “Lottie's walk for life”, raising £320 for us following successful cancer treatment of one of her Mini Smooths and a further £680 for the AHT. The most amazing bit of fund-raising was the 'Winny Fund' set up by Di Reid-Handy in memory of her Mini Smooth Winny who sadly was born with a spinal disorder and died at a very young age. Di has raised around £11000 which is a truly staggering amount and we cannot thank her and all the donors enough for their generosity.

The Dachshund Club's "Loose Change Challenge" for 2013 ended in November and the grand total collected was £826. A huge thank you to everyone who contributed and thanks also to everyone for joining in on the 2014 challenge.

During November we received £1000 for our Health Fund. The Kennel Club and Karlton Index held an awards ceremony at Discover Dogs where the Dachshund Breed Council was honoured to receive two awards (Top Breed and Leadership), together with cheques to the value of £500. Breed Council Chairman Ian Seath and Pet Advisors Gill Key and Emma Newman attended the ceremony and collected the awards on behalf of the Council. Ian also won theKI individual award and a further £250 for our Health Fund.

A donation of £250 was received from the English Springer Spaniel (ESS) breed clubs as a token of thanks for the support given to them in designing their 2013 Breed Health Survey. ESS also suffer from the cord I PRA mutation and we have been sharing information with them for several years.

This year, the Health Fund has contributed to the first stage of a research examination of Miniature Dachshunds to investigate Distichiasis. A second examination session is planned for February 2014 at the Miniature DC's Championship show. The Health Sub-committee is also exploring the possibility of conducting a research screening exercise for Brittle Bone Disease which has been reported in European Wire and Mini Wire Dachshunds.

Further funding of our health projects this year has come from the Lafora Fund which is managed by the WHDC and approximately £20,000 will have been spent to support the screening programme in 2013. This fund received the third and final instalment of a grant from the Kennel Club Charitable Trust which totalled £17,500. A further £1000 donation was received from the Wirehaired Dachshund Trust. The Fund had previously received £25,000 from the UK Breed Clubs.

Our major anticipated expense will be for the Back Disease research to be carried out by the Animal Health Trust. The initial phase of this work could cost in the region of £15000.

www.dachshundbreedcouncil.org.uk

www.dachshundhealth.org.uk
1.4 Karlton Index Awards 2013

Thanks to the generosity of the Kennel Club and Kennel Club Charitable Trust, our Health Fund is £750 better off. We won three £250 prizes at the 2013 Breed Health Awards ceremony.

The awards were kindly supported by the Kennel Club and the Kennel Club Charitable Trust and were given in recognition of hard work put in to pedigree dog health at breed club level. Work that is often overlooked. The aim of the awards is to highlight and share good practice. The judging panel included:

- Nick Blayney
- David Cavill
- Chris Laurence
- Harvey Locke
- Dan O’Neill
- Simon Parsons
- Clare Rusbridge
- Hannah Stephenson
- Holger Volk

There were seven awards in total. Two of which were linked directly to the Karlton Index scoring system. The remaining five awards were decided exclusively by the independent judging panel.

Top breed on the Karlton Index 2013, was presented by Bill Lambert to Ian Seath on behalf of dachshunds. In scoring the breed earlier in the year against the Karlton Index framework, Philippa described the work done by the Dachshund Breed Council as "a real inspiration to others".

In recognition of being an invaluable role model the Dachshund Breed Council received the award for Leadership in breed health which was presented by Mike Townsend of the KCCT to our representatives Ian Seath and Gill Key. As one judge observed “I am very impressed with the Council’s Health Planning and Progress Matrix. By using the GISID scale they are adopting a systematic and scientific approach that is easy for breeders to understand“

The award for individual achievement went to Ian Seath of the Dachshund Breed Council and was presented by the very well-known vet and dog welfare campaigner Marc Abraham. One judge summed this decision up by saying “Ian Seath’s wide-ranging commitment to all aspects of Dachshund welfare makes him a stand-out winner."

As well as the glass trophy to take back to their teams each winner also received the sum of £250 to be invested in future breed health activities.

A total of eight breeds and four individuals were courageous enough to put their work up for this level of scrutiny.

The judging panel wanted to emphasise that all the entrants are to be congratulated on their body of work in pedigree dog breed health.

In her address to close the event Philippa said “all the entrants should be proud of their efforts, and should look to the future with confidence that continuing with the same dedication, creativity and focus, their work will make a difference to the dogs“.
2. Planning

2.1 Breed Health Improvement Strategy

Our Breed Health Improvement Strategy is much broader than simply focusing on health conditions that affect Dachshunds. It comprises our approach to Leadership, Planning and Engagement as well.

In 2013 we published our first Breed Health Plan for consultation. You can download a 1-page abbreviated summary of the plan here and the full plan here. The document summarises all the available data and information we have on the breed today and sets out what we need to do to ensure a healthy future. Our Health Plan is based on a model developed by the Kennel Club in its guide for Breed Health Coordinators.

Our priority activities for 2013, listed in our previous Health Report, were as follows:

▲ Back Disease (IVDD):
  ◦ complete the collection of samples from clinically “Affected” dogs for the DNA research programme
  ◦ finalise the research approach and funding required by the AHT
  ◦ carry out an initial Thermal Imaging research screening exercise

▲ Lafora Disease:
  ◦ continue to promote and roll-out the Lafora Screening Programme, dependent on an agreed methodology from the Canadian lab
  ◦ publish the results of all dogs tested, together with advice for owners and breeders

▲ Eye Disease:
  ◦ conduct a research screening exercise to investigate Distichiasis in Mini Longs
  ◦ promote the use of clinical eye examinations in addition to the use of DNA screening

▲ Health Surveillance:
  ◦ continue to promote the on-line illness and cause of death survey
  ◦ use the data to inform and update current Health Plans

▲ Education and Communication:
  ◦ increase the availability of breed health information to potential puppy buyers (e.g. via on-line media, magazines and Discover Dogs)
  ◦ provide regular updates on the work of the Breed Council, using a variety of on-line and off-line channels/media

Many people reading this Annual Report will probably have visited our Health website and viewed the explanations of our current Health Plans. We use the GISID* scoring tool to assess the severity of diseases, which helps us decide how high a priority each condition should be, in combination with what we know about disease prevalence.

[* GISID: Generic Illness Severity Index for Dogs. Proposed by Asher et al 2009. 0 = Low Severity, 16 = High Severity.]
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We also have a framework for tracking the progress we are making with each disease. An example for Back Disease (IVDD) is shown below:

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<th>Disease</th>
<th>Evidence</th>
<th>Communication &amp; Education</th>
<th>Involvement of external Stakeholders</th>
<th>Health Planning</th>
<th>Testing &amp; Screening</th>
<th>Health &amp; Welfare Outcomes</th>
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You can find a slide-show summarising our current plans at our Health website: [here](www.dachshundhealth.org.uk). This includes progress matrices (as shown above) for:

- IVDD
- Lafora Disease (MWHD)
- cord1 PRA (MLHD, MSHD, MWHD)
- Heart Disease (WHD)
- Epilepsy (MLHD)
- Diabetes (SHD)
- Distichiasis (MLHD)
2.2 Health Surveillance

Our on-line Health Survey continues to provide a source of useful data on Dachshund health issues and we received 85 reports during 2013; an average of 7 reports each month. While this is not a huge number, it does enable us to track recurring problems and also record causes of death. After four years and 337 submitted reports, the picture emerging largely confirms our current Health Plan priorities and reinforces the data gathered in our Dachs-Life 2012 Health Survey. The top 5 reported conditions are summarised below and we are averaging 1.2 conditions reported per dog.

- Back disease is the number one issue reported by owners (22 new cases) and has been No. 1 since the survey began.
- Cancers and Tumours are the second highest reported category this year (12 new cases in 2013), with Mammary Tumours being most commonly reported and the average age of diagnosis being 10.1. We can fairly safely conclude that cancers are largely, and not unexpectedly, an issue associated with old age in our breed.
- The “Other” category, which was the 3rd highest category in 2013, includes “Death from Old Age” which accounted for 2/3 of these reports.
- Heart disease (11 new cases) was 4th highest, with Wirehaired Dachshunds accounting for 70% of all reported cases in our database.
- Dermatological conditions are now the 5th highest reported category with 5 new cases in 2013 and the main conditions being allergies and dermatitis.
- Epilepsy and Lafora Disease were the third highest reported category of conditions in 2012 and have dropped out of the top 5 in 2013, although 2 new Lafora cases were reported in 2013.

Dachshund Longevity:

The Kennel Club’s 2004 Health Survey reported a median age of death of 12.7 (from 245 reported deaths). The Dachs-Life 2012 median age of death was 11.8 (from 27 dogs who died between Jan. 1st and Mar 31st).

A paper published in the Veterinary Journal in 2103 based on VetCompass data showed a median age of death of 13.5 for Miniature Dachshunds (sample of 25 dogs).

The following data are from our on-line health reports of dogs who have died since Jan. 2010 (for conditions where there are 5 or more reports):

- The mean age of death for “old age” reports was 15.5 (19 dogs, oldest = 19)
- The mean age of death due to Cardiac conditions was 9.5 (30 dogs)
- The mean age of death due to Hepatic system conditions was 7.8 (8 dogs)
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- The mean age of death due to Urologic system conditions was 14.4 (5 dogs)
- The mean age of death due to IVDD conditions was 6.1 (36 dogs)
- The mean age of death due to Neurological (non-IVDD) conditions was 9.6 (9 dogs)
- The mean age of death due to Cancer conditions was 10.1 (28 dogs)

2.3 Partners in Health Improvement

For many of the conditions that we need to address, it is necessary to seek specialist advice from outside the Breed Council and Clubs. We therefore work in partnership with specialists from the Animal Health Trust, Kennel Club and others, as necessary.

During 2013 we have continued to collect samples for our IVDD project for the AHT to investigate the possibility of creating a DNA test related to back disease (see below IVDD).

We also initiated a research study using Thermal Imaging with the support of Anna Schumann a veterinary nurse who has trained in the use of TI.

The development of the Lafora DNA test has been completed with the support of Dr. Minassian's lab in Canada. Dr. Clare Rusbridge has continued to provide support and advice in relation to Lafora Disease and has been working with Gill Key on a Progression Study of affected dogs. Dr. Rusbridge took up a new role in September 2013 as Chief Neurologist with Fitzpatrick Referrals and their practice has kindly agreed to host a Neurology Seminar, in conjunction with a Lafora Screening day, in January 2014.

A piece of work has been initiated with an Operational Research consultant (on a pro bono basis) who is looking at the Lafora Screening uptake data with a view to modelling the impact of different take-up rates.

We completed the initial stage of a Distichiasis Screening Programme for Mini Long-haired Dachshunds with the help of Prof. Sheila Crispin.

There are two veterinary data collection projects under way in the UK; SAVSNET run by the BSAVA and VetCompass, run by the RVC. Both of these projects have the potential to provide us with a step-change increase in the amount of data available to us. For example, VetCompass currently has records of around 2,200 Dachshunds. An initial analysis of the records showed there to be some classification issues with 10 different “types” of Dachshund being recorded. Further work will need to be done to “clean up” the data and align it with the 6 varieties classified by the KC.

The Breed Council's Health and Welfare Sub-committee continues to build relationships with other breeds' Health Coordinators in order to share experience and learn from each other's work. Ian Seath and Judy Squires have also met with the English Springer Spaniel Health Coordinators (ESS being another breed with cord1 PRA). The ESS clubs generously made a donation of £250 to our Health Fund in recognition of the help given to them in designing their Health Survey.
The Dachshund Breed Council

2.4 Communications

We have three key groups of people with whom we have to communicate effectively:

- Breed Club members (who have agreed to abide by our Code of Ethics)
- Breeders who are not members of Breed Clubs (and who probably represent about 80% of the Dachshund breeders with litters listed in the KC’s Breed Records Supplement)
- Owners and potential owners of Dachshunds

We have continued to develop our approach to communications, particularly the use of on-line groups.

Our Facebook page has grown from 918 followers at the end of 2012, to 1233 at the end of 2013 (an increase of 34%). We also share news items in 16 Facebook Groups.

Our Health website has increased the number of unique visitors by 26% compared with 2012 and is currently averaging around 800 visitors per month (based on a 3 month moving average).

![Health Website Unique Visitors graph](image.png)

Visits to the Breed Council’s website have doubled in 2013 compared with 2012 and are now running at a monthly average of just over 4500. Our “Buying a Dachshund page had the highest number of views of all the site’s pages, with just over 19,000 views.

929 copies of our pdf guide “Buying and Owning a Dachshund” were downloaded.
Once again the Midland Dachshund Association planned and organised the Dachshund booths at Discover Dogs run in conjunction with Crufts. The Southern DA organised the London Pet Show and Discover Dogs London. We are extremely grateful to all the people who helped make all these events so successful, by bringing the dogs and sharing their expertise with members of the public.

Our Newsletter has been published every month during 2013 and now reaches a mailing list of 971 people (up from 751 at the end of 2012). On average, there have been 23 new subscribers to the Newsletter, signing-up each month.

Details of the Newsletter and download links are also posted on numerous social networking groups.

Various articles and news items have been produced for, and published in, Dachshund Breed Club Newsletters throughout the year.
3. Breed Health Improvement

None of what we have reported on Leadership, Planning and Communication matters if we don’t actually achieve real health improvements that benefit the breed. In this section of the Report we will summarise what’s been happening and what’s been achieved with each of our priority health conditions and others that are on our “Watch List”.

3.1 Intervertebral Disc Disease (IVDD – Back Disease)

Back disease is reported to affect up to 1 in 4 Dachshunds. This may range from relatively mild symptoms that can be cured with cage rest and anti-inflammatory drugs, through to paralysis which may require surgery, or in the worst cases, euthanasia. It is therefore the single most important issue for us to address.

The data we have from the Dachshund Breed Council’s Dachs-Life 2012 Health Survey shows the following age profile of Dachshunds without IVDD, from a sample of nearly 1500 UK Dachshunds. This chart is very similar to the IVDD survival curves presented by Bergknut et al in their 2012 paper which analysed Swedish Agria Insurance Data on IVDD. Our survey also shows that there are significant differences in IVDD prevalence between the 6 coats/sizes of UK Dachshund.

During 2011 we began the first stages of a research programme in conjunction with the AHT to see if we can identify a DNA test that might help identify IVDD risk. Our initial task to recruit 50 Dachshunds over the age of 12 that had never suffered from a back problem, however minor, began in 2012.

In 2013 we began collecting swab samples from dogs in the 4-7 age range who have had surgery as a result of a herniated disc. Samples are being collected from dogs undergoing surgery at the AHT and other referral practices. These will form the “Affected” samples. Collection of samples has been frustratingly slow, but we are now close to having the required number.

We mentioned earlier in this report that we initiated a study into the potential value of using Thermal Imaging to assess the health of Dachshunds' backs. The first imaging session took place at the Southern DA Championship show in January 2013 and further images were taken at the SDA’s June Open Show.

We have collected a large amount of data which has surprised us in its diversity and the next step is identifying a way to use that data to start mapping out areas of particular stress/pre disposition to IVDD. We now need to identify a veterinary specialist who would be interested in working with us on this next stage. A similar study in French Bulldogs has shown some encouraging results, but it too is still in its early stages.
Advice for breeders:

IVDD is clearly one of the serious health conditions where breeders should not knowingly breed from bitches, or use dogs at stud, if it is likely that their puppies will be affected by IVDD. Our Code of Ethics Guidance makes this clear.

Download the Breed Council's information sheet on IVDD here.

3.2 Lafora Disease

The Kennel Club and Breed Clubs donated funds to subsidise a research programme aimed at developing a test that would identify those miniature wire haired dachshunds that are Affected, Carriers or Clear of Lafora Disease.

The Centogene laboratory could not successfully develop a robust and consistent test that would identify Carriers, although the saliva tests they did, could differentiate between Affected and Unaffected animals.

Dr Minassian at the Toronto Hospital For Sick Kids had successfully developed a test for Lafora Disease in Children and had used similar techniques to develop a test for dogs. When we told him about the issues we were having, he used his Research Assistant to work on developing a test that could successfully identify Clear, Carriers and Affecteds.

The first batch of 41 blood and saliva samples was sent in April 2012. These tests took months to complete because of the complexity of the analysis and the risks of sample contamination. Therefore, before the next batch was sent in April 2013, Dr Minassian’s team revived a previously used method that proved to be very successful and a lot quicker, he calls this the “Southern Blot” method. It remains extremely complex and is not a quick turnaround test.

The next batch of 46 was sent in April 2013 and by now it was apparent that saliva samples did not consistently offer robust results so just blood samples were sent. These results were turned round in approximately 10 weeks.

The third batch was sent in July 2013.

To date, a total of 322 dogs have been tested. Of those, 174 are Unaffected from the Centogene tests (we do not know if any of these are Carriers as they have not had the full test). 149 dogs have had the full spectrum test and the results of these are:

- Affected: 14 (9.3%)
- Carrier: 54 (36.2%)
- Clear: 81 (54%)

From the total dogs on our database (322) there are 37 Affected, which is an overall incidence of 11.5% (slightly inflated due to testing of some animals known to be affected and used as control samples). Whichever testing method has been used, the incidence per cohort has usually been around 10%.

The fourth batch of tests were sent on Thursday 21st November. This was our biggest session so far and we sent 102 samples off to Canada for the test.
The Dachshund Breed Council

Breed Records Supplement Litter Registration Data

The Lafora Sub-committee has analysed the litters recorded in the KC’s Breed Records Supplement and the chart below shows the data on the proportion of litters being registered with "safe" and "unsafe" matings. An "unsafe" mating is one where any of the puppies could be Lafora Affected. "Safe" litters have puppies that are either Lafora Clear or Carriers. There's a clear message for potential Mini Wire puppy buyers here: ask for the test results of both parents of any puppy you are considering buying and check out the WHDC results database.

Vet Presentation

A vet (Anthony Dennison) from Myerscough Veterinary Group in Lytham St Annes, held an evening seminar at the Tickled Trout in Preston on Wednesday 23rd October. He has a special interest in neurology and has experience of owning and treating Miniature Wire Haired Dachshunds with Lafora Disease. He outlined how the disease behaves, what to expect and how best to manage the variety of symptoms. Attendance was not high from the breeder community, there were 4 breeders present. There were 8 members of the veterinary profession that had come to learn more about Lafora and 3 people with Affected dogs who had come to learn how best to manage the condition.

It focused mainly on the management of symptoms but did give an extremely good overview of the way the body of a Lafora Affected dog cannot break down carbohydrates. As a result, they are then stored as crystals in nerve cells and eventually prevent the cells from doing their jobs properly, particularly in the brain, hence the external symptoms. He confirmed that if dogs are diagnosed as Affected, they will develop symptoms – the disease is present from birth – it just builds up slowly. He was very clear that in his professional opinion, affected animals should not be bred from for a number of reasons, including:

Lafora is present from birth, the build up begins immediately because the liver cannot do its job properly in breaking down and absorbing carbohydrates. Therefore, just because outward signs are not visible, there is still a lot wrong on the inside and the changes brought on by pregnancy, including hormone levels and additional stress, give the central nervous system more to cope with, which could unnecessarily speed up the progression of the disease.

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He confirmed that Lafora disease speeds up the ageing process due to the cells not being able to function properly - again, the advice was, the less stress the better. There is more work being done through the Progression Survey which will help to inform us about the age at which symptoms present and the speed at which they progress.

There was also a talk from a nutroceutical company, which was interesting, about products that can help with cell repair and anti-ageing, aimed at Lafora dogs or other diseases.

We are hopeful that Anthony will deliver more presentations over the next 12 months to raise awareness and enable people to ask questions.

**Progression Survey**

Gill Key is carrying out a progression survey in conjunction with Clare Rusbridge, a canine neurologist. These are the results so far. It is an ongoing piece of work to monitor the onset and differing rates of progression:

1. 58 responses in total 41 separate dogs.
2. Of those 41 dogs, 28 show symptoms, 13 show no symptoms.
3. Of those 41 dogs, 22 are WHDC tested affected.
4. 19 dogs with symptoms have not been tested via WHDC but show or showed typical Lafora symptoms before death (some of which died before testing was available).
5. Average age of dog at point of most recent survey completion 6.85.
6. Average age of onset of symptoms 7.0 years.
7. 86% of vets did not recognise symptoms as possibly indicating Lafora at first visit. 32% suggested a referral to a neurologist.
8. Of 22 WHDC tested affected, 11 show symptoms.
9. Average age of WHDC tested affected dogs at point of most recent survey completion: 5.9 years.
10. Average age of onset of symptoms in WHDC tested affected dogs 6.6 years.

**Impact on MW registrations**

There has been some discussion among MWHD breeders about the adverse impact caused by the delays on having a DNA test available, with some claiming that it has stopped people breeding. The registration statistics for MWHDs since 2009 are shown below:
The Dachshund Breed Council

MWHD Registrations 2010-2013

This shows quite a wide range of quarterly registrations over the past five years (Min. 127, Max. 260). The average level of registrations over this period was 182 dogs per quarter and the 4 Quarter Moving Average has dropped from an average of 200 to 150 per quarter. However, some of this drop is likely to be associated with the general economic climate as all KC Registrations have dropped during the recession.

Next steps

The member clubs attending the November 2013 Breed Council meeting voted unanimously to support making a request to the Kennel Club for all Lafora test results to be recorded against a dog’s registration details, in the same way as cord1 PRA results are. This will mean anyone wishing to view a dog’s results will be able to see them online using the KC’s Health Test Finder service. The WHDC is also preparing a submission to the Kennel Club to ask for Lafora screening to be upgraded from a "Recommendation" to a "Requirement" under the Assured Breeder Scheme.

- Funds are limited so there is only sufficient subsidy for approximately 100 more dogs
- There is another testing day in Surrey in January, combined with a Neurology Seminar covering Lafora Disease and IVDD. Forms are available from Sue Holt Susan.Holt@talktalk.net or Nora Price laforatesting@mypostoffice.co.uk
- All owners of dogs identified as affected through the WHDC scheme have been invited to contribute to the current Laforadogs progression survey and it is anticipated that this will provide an extremely useful source of information on a continuous basis

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The Dachshund Breed Council

We have tried to keep everyone informed of the situation through our regular Newsletters and all our updates have been reported in Breed Notes in the dog press and on our websites. We will continue to maintain our Lafora communication campaign to ensure everyone can make the most informed decisions about buying or breeding.

Advice for breeders:

Lafora Disease is clearly one of the serious health conditions where breeders should not knowingly breed from bitches, or use dogs at stud, if it is likely that their puppies will be affected by Lafora. Our Code of Ethics Guidance makes this clear.

Download the Breed Council's information sheet here.

Download a pictorial guide to the genetics of Lafora Disease here.

Download “How to breed out Lafora Disease in three generations” here.

3.3 PRA cord1 Retinal Degeneration

The cord1 PRA mutation was originally identified in MLHDs in 2005 and their breeders have been making use of the DNA test ever since. In 2008, MSHDs were added to the screening requirement and MWHDs were added in 2011. The following chart shows the number of tests now carried out in each variety; a total of 6596 in total (approx. £300,000 of test fees).

![Number of UK cord1 Tests by Variety chart](chart.png)

While take-up of tests is important, what we are really interested in is the impact testing is having on the frequency of the cord1 mutation in the Dachshund population.
In MLHDs, the mutation frequency has dropped to 0.18 and we are now seeing an average of only 3% of dogs testing as “Affected”, down from 18% in 2005. Half of all MLHDs tested in the past three years have been “Clear” of the cord1 mutation, compared with 35% 5 years ago.

In MSHDs, the mutation frequency started at a higher level than in MLHDs and has now dropped to 0.26 and we are seeing 7% “Affected” dogs, down from 27% in 2007.
In MWHDs, there are fewer test results to review so far and the proportion of “Affected” dogs is known to be much lower than in the other two varieties: 1% each year from 2011., and a mutation frequency of 0.12 in 2013.

The Miniature Dachshund Club, on behalf of the Breed Council, monitors cord1 test results reported in the KC’s Breed Records Supplement and identifies all breeders who have produced litters where there are cord1 Affected puppies. Since we believe there is no excuse for breeding with untested dogs and producing Affected puppies, the KC is then asked to send an advisory/warning letter to these breeders.

Advice for breeders:

Under the Assured Breeder Scheme cord1 testing is a requirement for all three varieties of Miniature Dachshund.

Download the Breed Council's information sheet [here](http://www.dachshundbreedcouncil.org.uk).  
Download a pictorial guide to the genetics of cord1 PRA [here](http://www.dachshundhealth.org.uk).

### 3.4 Distichiasis in MLHD

As part of the cord1 PRA research carried out in 2010 by the AHT, approximately 80 MLHDs were clinically screened for eye disease and, of these, 42% were found to have Distichiasis. Extra eye lashes growing from the margin of the eye-lid may cause irritation or scarring of the cornea and excess tearing from the eyes. This is probably the most common canine hereditary eye condition.

Since we have been made aware of these findings, the Miniature Dachshund Club has taken responsibility, on behalf of the Breed Council, for investigating the condition and recommending a course of action. An initial research screening exercise was carried out at the 2013 Houndshow. This was offered free of charge to owners of MLHDs and was funded jointly by the Breed Council, Miniature DC and Long-haired DC. Due to the small number of dogs screened so far we are unable to provide any further information on the
prevalence or severity of the condition. A further screening session will be held in February 2014 at the Miniature Club's Championship show.

Advice for breeders:

A clinical eye examination will quickly determine if the condition is present and this is recommended for all breeding stock. Affected dogs should not be bred from as the cause may be an autosomal dominant gene with incomplete penetrance. [Stockman 1983]

Details of eye clinics around the UK are available from the Kennel Club's website: here.

Download the Breed Council's information sheet here.

3.5 Watch List

There are two conditions which are currently on our “Watch List”:

- Cardiac disorders in WHDs
- Epilepsy in MLHDs

Both of these were identified in Dachs-Life 2012 as being of statistical significance compared with the same conditions in other varieties of Dachshund.

28 Wires have been reported with cardiac conditions in our online survey, with an average age of diagnosis of 6.2. Of these, 19 died, with an average age of death of 9.8. The data shows that some of these dogs were diagnosed with heart murmurs at a young age (often before 2), which became progressively worse and resulted in heart failure.

Although Epilepsy in MLHDs is discussed in the breed, we have too few reports to be able to draw significant conclusions. While breeders “sweep this under the carpet”, it will be difficult to establish an effective course of action.

A research paper was brought to our attention in early 2013 which reported the prevalence of Osteogenesis Imperfecta (Brittle Bone Disease) in European Dachshunds. A DNA test is available and we have had initial discussions about how big a sample of dogs we would need to test to assess the mutation frequency in the UK population. The overall frequency of OI carriers reported in the paper was 12.9 per cent. Across all different size varieties, the SERPINH1 mutation was over-represented in wire-haired dachshunds with 17.3 per cent OI carriers. Among the different countries, the proportion of OI carriers was highest in Germany with 20.4 per cent. We also plan to identify any UK-owned dogs with German lines to find out if there are any DNA test results available for their ancestors. Until we have completed our sample research and have established the mutation frequency in the UK population, we do not recommend UK Dachshund breeders make use of this test. However, anyone considering importing Dachshunds from Europe or Scandinavia may wish to ask the seller of any dog whether or not they have carried out this test.
3.7 Breed Health Improvement – Conformation

The Dachshund Breed Council's Health Committee was pleased to see Rowena Packer’s research published in July, as back disease is our number one health priority to address, given its high prevalence. We have spoken with her several times about her work and were delighted to welcome her to our Breed Conference in 2012. Her paper provides some fascinating insights into the complexity of back disease in a range of pedigree breeds, not just Dachshunds, and cross-breeds.

Our own Health Survey of 1500 dogs which is referred to in the paper confirmed to us in 2012 the prevalence of back disease and showed the extent to which it is age-related, as well as highlighting some significant variations between the six varieties of Dachshund. Our survey also showed that pet-owned Dachshunds were twice as likely to be reported with back disease as show-owned ones.

The paper's Abstract is as follows

Intervertebral disc extrusion (IVDE) is a common neurological disorder in certain dog breeds, resulting in spinal cord compression and injury that can cause pain and neurological deficits. Most disc extrusions are reported in chondrodystrophic breeds (e.g. Dachshunds, Basset Hounds, Pekingese), where selection for ‘long and low’ morphologies is linked with intervertebral discs abnormalities that predispose dogs to IVDE. The aim of this study was to quantify the relationship between relative thoracolumbar vertebral column length and IVDE risk in diverse breeds. A 14 month cross-sectional study of dogs entering a UK small animal referral hospital for diverse disorders including IVDE was carried out.

Dogs were measured on breed-defining morphometrics, including back length (BL) and height at the withers (HW). Of 700 dogs recruited from this referral population, measured and clinically examined, 79 were diagnosed with thoracolumbar IVDE following diagnostic imaging 6 surgery. The BL:HW ratio was positively associated with IVDE risk, indicating that relatively longer dogs were at increased risk, e.g. the probability of IVDE was 0.30 for Miniature Dachshunds when BL:HW ratio equalled 1.1, compared to 0.68 when BL:HW ratio equalled 1.5. Additionally, both being overweight and skeletally smaller significantly increased IVDE risk. Therefore, selection for longer backs and miniaturisation should be discouraged in high-risk breeds to reduce IVDE risk. In higher risk individuals, maintaining a lean body shape is particularly important to reduce the risk of IVDE. Results are reported as probabilities to aid decision-making regarding breed standards and screening programmes reflecting the degree of risk acceptable to stakeholders.

The Dachshund Breed Standard

The General Appearance clause says... Moderately long and low with no exaggeration, compact, well muscled body, with enough ground clearance to allow free movement. Height at the withers should be half the length of the body, measured from breastbone to the rear of thigh.

The RVC paper primarily used Back Length (BL) as a key measurement, whereas our Breed Standard quotes Body Length. Some very “quick and dirty” measurements from photographs suggest our 2:1 ratio approximates to an RVC BLHW equivalent of 1.3-1.4. Measurements of some photos of FCI Dachshunds approximate to RVC BLHW values of 1.2-1.4. Photos of Dachshunds with clearly exaggerated length and lack of ground clearance show RVC BLHW values of 1.5-1.7. The Breed Mean for BLHW of Miniature Dachshunds in the RVC paper was 1.5.
The Dachshund Breed Council

Key Points from the paper

This paper provides us with evidence we can use to further our programme of health improvement in the breed. There are some key points which we will have to make use of in working with different stakeholder groups to reduce the prevalence of back disease:

- Breeders should be selecting away from exaggerations in length of back and shortness of leg. With fewer than one in six Miniature Dachshund breeders being involved in the show and breed club community, it will be a real challenge for us to reach all breeders and we will need help from the Kennel Club and vets to do this.
- The Breed Council's Health Committee will need to review the Breed Standard and identify how to ‘map’ the BLHW ratio described in the paper, to our current guidance on length to height (which is measured from different reference points on the dog's body).
- Exhibitors and judges need to reflect on the evidence that longer dogs are more prone to back disease and remind themselves that our Breed Standard calls for a moderately long dog, with good ground clearance. Nowhere does our Breed Standard say they should be “Long, low and level”. Adopting the KC's Breed Watch system could provide a mechanism for judges to report concerns and allow us to monitor what is happening in the show ring.
- It was shocking to see that nearly half the Miniature Dachshunds in the study were overweight and around one in eight was substantially overweight. All owners and vets need to be more proactive in addressing issues of diet and exercise, and recognising the impact of these lifestyle factors on back disease.
- The fact that miniaturisation leads to an increased risk of back disease is a key message to get over to the general public who seem to be increasingly keen on ‘teacup’ and ‘handbag’ dogs. Although this is not an issue in the show ring, it is something we are aware of from Internet puppy adverts and will have to factor into our buyer education.

As with much research, the paper raises as many questions as it answers. For example, why are there differences between the different varieties of Dachshund; why were cross-breds the second most highly presented dog with back problems and why does a short-backed breed like Cockers also appear to have a problem with backs? We also need to understand why Dachshunds bred under the FCI Standard suffer similar levels of back disease to UK dogs, despite them having longer legs and shorter backs.

Members of our Health Committee will be meeting with representatives of the RVC team who carried out this research to discuss the results, identify practical actions we can implement and consider the scope for future work. Rowena has been invited to present her findings at our January 2014 Neurology Seminar.

We shall be continuing our IVDD DNA research project which is under way with the Animal Health Trust and continuing to investigate the use of Thermal Imaging as a way of identifying healthy backs.

We continue to monitor the use of X-ray screening programmes that have been implemented outside the UK. We understand the current position in the Scandinavian countries is as follows:

- Sweden: they are opting out as their opinion is that the results differ too much depending on the age the x-rays are taken.
- Denmark: mandatory checks are stopped, but they will keep a record of voluntary results.
- Norway: they will carry on with voluntary checks.
- Finland: same as Norway, but checks will be subsidized by the Finnish Dachshund Breed Council (50 EUR).
3.7 Breed Health Improvement – Genetics and Diversity

Genetic diversity refers to the total number of genetic characteristics in a species. It is important that species have a large genetic diversity to allow them to adapt to changing environmental conditions. Inbreeding reduces the genetic diversity of a breed and increases the chances that a dog will inherit the same (possibly bad) version of a gene from both parents.

The Kennel Club launched its "Mate Select" on-line service in May 2011. The site enables breeders to:

- Find the health test results of individual dogs
- Find out the Coefficient of Inbreeding of an individual dog
- Find the Coefficient of Inbreeding for an entire breed
- Predict the Coefficient of Inbreeding of puppies from a proposed mating

CoI values for each of the Dachshund varieties was as follows in May 2011 and at December 2013:

<table>
<thead>
<tr>
<th></th>
<th>Smooth</th>
<th>Mini Smooth</th>
<th>Long</th>
<th>Mini Long</th>
<th>Wire</th>
<th>Mini Wire</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st May 2011</td>
<td>8.20%</td>
<td>8.10%</td>
<td>8.60%</td>
<td>7.60%</td>
<td>6.70%</td>
<td>11.30%</td>
</tr>
<tr>
<td>1st Dec. 2012</td>
<td>7.30%</td>
<td>8.00%</td>
<td>12.20%</td>
<td>7.10%</td>
<td>6.60%</td>
<td>10.80%</td>
</tr>
<tr>
<td>1st Dec. 2013</td>
<td>7.30%</td>
<td>8.00%</td>
<td>12.20%</td>
<td>7.10%</td>
<td>6.60%</td>
<td>10.80%</td>
</tr>
</tbody>
</table>

The (breed) average inbreeding coefficient for a breed is calculated on an annual basis by calculating the inbreeding coefficients of all individuals of the breed born during the selected year. The mean of the inbreeding coefficients is taken as the average for that year. It appears that figures for 2013 have not been calculated at the time of writing this report.

Dr. Tom Lewis and Dr. Sarah Blott, the Kennel Club Genetics Centre, AHT wrote the following:

The Coefficient of Inbreeding (COI) is a probability that at any gene in an individual both copies are identical by descent (IBD) – that is they are both identical copies of a single ancestral allele (a variant of a particular gene) which have been inherited via both the mother and father.

Importantly, the COI makes no assumptions about which particular genes may be IBD, or the ancestral sources. All individuals carry some mutant alleles (which are usually harmless as they are partnered by a “normal” allele). Therefore it makes no difference which common ancestor a particular mutation may have been inherited from. Given the COI describes the probability of IBD at each gene it is a useful indicator of risk – the higher the COI, the greater chance a gene is IBD and the greater the risk that it is a mutant allele that is IBD.

The COI is an estimate, derived from the pedigree, of actual IBD. Thus, discarding pedigree information, for example just taking 5 generations, hampers the ability to estimate this reliability. It is crucial to take note of the amount of pedigree used in the calculation of a COI to gauge its reliability – information that is clearly available from the KC's Mate Select. For example, a COI of 13% using 15 generations of a pedigree will be a more reliable indicator than a COI of 12% using four generations of pedigree, and as a result the former may be a “safer bet”.

It matters little whether a dog has a COI of 2.8%, 3% or 4%, since direct comparison of dogs’ COI is futile – the dogs already exist and hopefully are healthy (COI represents risk – not a prediction of disease).

Standardisation of the amount of pedigree (usually tantamount to discarding pedigree information) used in COI calculation simply trades reliability of the estimate of IBD for the ability to directly compare individuals.
Furthermore, inappropriate focus on the COIs of individuals distracts us from our main objective – the monitoring of the rate of inbreeding at a population or breed level, i.e. the way in which the breed average COI is changing over time. This informs us of the genetic influence ancestors have on the entire population, rather than to particular individuals and describes the risk that the frequencies of mutant alleles will increase. Mutant alleles at a higher frequency in a population lead to a greater chance that a disease appears to suddenly emerge. Thus, diseases or mutations do not come to light “by chance”, but are precipitated by a high rate of inbreeding.

If we think of the management of inbreeding as a means of managing diversity and reducing the long-term risk of disease in breeds then we need to accurately measure the rate of inbreeding.

We know that truncating the pedigree when calculating COIs leads to an underestimate of the rate of inbreeding in a breed. We can then be deceived into thinking the breed has an acceptable rate of inbreeding when, in fact, it does not.

One of the purposes of Mate Select is to help breeders manage the rate of inbreeding in their breeds, not just the COIs of individual dogs. To assist in this purpose it is intended to provide additional tools, such as the facility to track genetic contributors.

Given there are multiple selection objectives when breeding dogs (incorporating various aspects of health, temperament, type, etc.), COI can and should only be one of a number of considerations the breeder wishes to take into account. Inevitably the breeder must balance some concerns against others, but breeders have always done this.

We would certainly not condone using COI as the only selection objective. However, considering the potential COI of litters from a series of hypothetical matings (i.e. ahead of time) alongside the breed average COI (a feature of Mate Select) can help breeders more easily take into account the genetic diversity both of individual dogs and the wider breed.

Advice for breeders:

Matings between a Sire and Dam that result in offspring whose CoI is lower than the breed average will help contribute to a reduction in the breed's CoI and are therefore to be preferred over matings that produce offspring whose CoI exceeds the current breed average CoI.

The Breed Council will be monitoring changes in each Dachshund variety's Coefficient of Inbreeding over time and strongly encourages breeders to make use of Mate Select to help inform their breeding strategies. The Dachshund Breed Council has produced an Introductory Guide to Genetics which you can download here.

We have also published pictorial guides on the genetics of Lafora Disease and cord1 PRA. These show the combinations of matings between Clear, Carrier and Affected dogs which are safe and those which should not be done.
The Dachshund Breed Council

Popular Sires

Our Health website has summaries of sires and litters from five quarters published in the Breed Records Supplement (BRS) but, in 2012, we decided to put further analysis on hold as there appeared to be no major issues with Popular Sires and due to the significant amount of time required to collate the data, particularly for the Miniature varieties.

In general, the data showed in the Miniature varieties there were a large number of dogs being used (350 MS, 200 ML, 100 MW), but a few dogs were siring between 12 and 20 litters in a year. In the Standards, where registrations are much lower, unsurprisingly, far fewer stud dogs were being used (typically 30-40 different dogs over an 18 month period).

The impact of a single Stud Dog on genetic diversity and potential health risks is therefore much greater in the Standard varieties than the Minis.

Advice for owners of Stud Dogs

Owners of stud dogs should carefully consider the desirability, whenever possible, of ensuring that potential sires are carefully screened for any known genetic defects prior to being used at stud. The responsible stud dog owner will not permit widespread use of a young male until there has been adequate opportunity to study the offspring that are produced during his initial period at stud. Once a young sire's performance has been evaluated and the potential for him to pass on genetic defects has been assessed a decision can then be made as to whether he can be used more extensively at stud.

The KC's Mate Select can be used to identify the expected Coefficient of Inbreeding of any planned mating. Matings that result in litters with a COI higher than the current breed average will, in general, contribute to a reduction in the breed's genetic diversity and are therefore undesirable.

The FCI's guidance on breeding says “As a general recommendation no dog should have more offspring than equivalent to 5% of the number of puppies registered in the breed population during a five-year period.”

Effective Population size

Effective population size is the number of individuals in a population who contribute offspring to the next generation. Generally, the more inbred a population is, the lower its EPS will be as there are fewer unique individuals contributing to the next generation.

During 2013 we consulted with Tom Lewis (Population Geneticist at the AHT) and now have the Effective Population Size data for Dachshunds (except Wires, which he's not yet calculated). The effective population sizes for the Dachshunds we have so far are as follows:

- Long-haired: 32.9
- Smooth-haired: 45.2
- Mini Long-haired: 75.5
- Mini Smooth-haired: 65.8
- Mini Wire-haired: 70.3

Tom said:

“These figures are based on the mean inbreeding coefficients by year of birth from 1980-2009. We tend to see the rate of inbreeding flattening off in the latter years, and this looks like the case with the Dachshunds too. Extrapolating this trend to include data from 2010-2012 may reduce the rate further (and so increase the effect population sizes a bit).”
Generally, we like to see an effective population size 100, and judge those at <50 to be at risk of the effects of rapidly declining genetic diversity.” These results are pretty much in line with other breed data that have been published previously where small numbers of registrations typically have low EPS values. So, for example, the Standard Longs are as low as vulnerable breeds like the Otterhounds.

3.8 Breed Health Progress Summary

Our progress summary is shown in the chart below which tracks performance on the Health Matrices against each condition’s GISID score.

Summary of health conditions and progress
4. Priorities for 2014

The Breed Council will focus on the following priority activities in 2014:

- **Back Disease (IVDD):**
  - complete the collection of samples for the DNA research programme
  - finalise the research approach and funding required by the AHT
  - review the findings of the RVC research with Rowena Packer and develop breed-specific recommendations

- **Lafora Disease:**
  - continue to promote, subsidise and roll-out the Lafora Screening Programme with a view to increasing the proportion of “safe” litters to at least 80% (currently just under 50%)
  - publish the results of all dogs tested, together with advice for owners and breeders

- **Eye Disease:**
  - conduct a second research screening exercise to investigate Distichiasis in Mini Longs
  - promote the use of clinical eye examinations in addition to the use of DNA screening

- **Health Surveillance:**
  - continue to promote the on-line illness and cause of death survey
  - use the data to inform and update current Health Plans

- **Education and Communication:**
  - continue to make the most up-to-date breed health information available to potential puppy buyers (e.g. via on-line media, magazines and Discover Dogs)
  - provide regular updates on the work of the Breed Council, using a variety of on-line and off-line channels/media

These are our priorities; in addition, we expect to continue to carry out the many other activities that are already under way.