Health Report 2011

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

Issued: January 2012
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Chairman's Introduction

During the short time I have been Chairman of the Health and Welfare Sub-committee of the Dachshund Breed Council I have been particularly interested to see the progress being made in the control of inherited diseases of Dachshunds using genetic testing. Good progress is evident in the reduction of cord1 PRA in Mini Longhaired Dachshunds and progress has also been seen in Mini Smooths. Mini Wires were added to the scheme this year.

A start has also been made in Lafora’s Disease in Mini Wires and work has been carried out on Day Blindness in Wires and Distichiasis in Mini Longs. An investigation into the genetics of Intervertebral Disc Disease has also begun. This back problem is said to affect one in four Dachshunds, so is of great importance, although we don’t really know the actual number of Dachshunds involved.

We all wish to work towards improving further the overall health status of our Dachshunds. To be able to achieve this we really need more information on the incidence of disease conditions in our breed. During 2011 the Dachs-Life 2012 Health Survey was produced and from January 1st all Dachshund owners will be able to complete it for their dogs. I hope that as many as possible do this as the information gathered will supply much of the missing information which will be invaluable in enabling the Breed Council to move forward scientifically with the Breed Health Improvement Strategy.

We look forward to 2012 to see the results of the investigations started in 2011 and the Health Survey, which will put them into perspective and may supply further challenges to tackle.

I hope you find our third annual Health Report useful and informative.

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, Lesley McNaughton, Ian Seath, Valerie Skinner and Judy Squires.

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 November 2011, Judy Squires attended the Kennel Club's Health Coordinator Seminar, to represent the Breed Council.

H&W Sub-committee contact details can be found [here](#).

1.2 Pet Advisors

During 2011 the Breed Council's Health and Welfare Sub-committee invited Gill Key and Emma Newman to work with them as "Pet Advisors". It was felt that having pet owners' perspectives on health matters would add a useful dimension to our work (and give us two more pairs of hands to help out!).

Gill is the founder of the Lafora Dogs Support Group ([www.laforadogs.org](http://www.laforadogs.org)) and she has two Mini Wires, one of whom has Lafora Disease. Emma owns two Mini Longs and is about to embark on an Open University Genetics Course. Neither of them show or breed, and both have a strong interest in Dachshund health matters.

We feel this will be a really helpful way for us to find new ways to get our H&W messages across to pet owners and also to get information from these owners. With our planned Breed Survey due to be launched at the beginning of 2012, it is essential that we get as much involvement of Dachshund owners as we can, whether they breed, show, work or enjoy them as pets.

Gill and Emma prepared a short report for the Breed Council's October meeting, describing how they felt they could help:

### How We Might Help

- Raising awareness of health and welfare issues amongst the pet owners/small breeders and prospective puppy buyers who aren't members of any of the Breed Clubs, e.g.:
  - Contacting advertisers on puppy sales websites that are not recorded as members of Breed Clubs or listed on the Dachshund Showcase. e.g. in August there were 12 different adverts on one site for Mini Wire pups, of which only 9 were known breeders – GK contacted others re Lafora to encourage them to get dogs tested.
  - Creating small ‘business card’ size information/fact sheets for owners to hand to dog owners met when out walking (Dachshunds always attract attention!).
  - Contacting vets with DBC Dachs-Fact sheets, investigating potential of social media sites vets might use to add link to DBC website.
  - Posters for vets/Pets at Home noticeboards.
- Building network of Dachshund pet owners willing to help with passing on such information as above, e.g. via [www.dachshundforum.co.uk](http://www.dachshundforum.co.uk)
Identifying other online groups and websites and maintain a presence e.g. http://www.dachshundsinlondon.co.uk/, http://www.miniature-dachshund.co.uk/Dachshunds in order to increase our visibility.

Monitoring forums and recording instances of health-related problems, e.g. epilepsy in Mini Longs reported on Dachshund Forum.

Helping to raise awareness of, and encouraging participation in, the upcoming survey by pet owners (e.g. through forums / vets / P@H notice boards as above to try to raise awareness).

Proof-reading publications to ensure that they can be understood by less knowledgeable pet owners.

Providing ‘non-official’ PR opportunities from a ‘personal’ perspective that may be taken up more willingly by the press in some cases, e.g. contact with Jemima ‘PDE’ Harrison and some very positive reporting on the work of the DBC in her blog; contacting TV/Local Newspapers to share story of own experiences and raising awareness of forthcoming DNA testing opportunities.

Offering DBC itself a perspective from the pet owner’s point of view to ensure that initiatives provide an appropriate path for pet owners, e.g. suggesting an alternative for Lafora testing other than at shows was made available, which so many pet owners do not attend.

Extra pairs of hands/brain power to help as required!

Emma Newman and Gill Key
7th September 2011

1.3 Health Fund

Over the past few years it has become increasingly obvious that, as a breed, we need to have access to funds to support and enable our health improvement plans. In 2010, the Wirehaired Dachshund Club generously subsidised the Lafora Screening programme so that MWHD breeders could take advantage of the available test. This year, we approached all the Breed Clubs, the Wirehaired Dachshund Trust and the Kennel Club Charitable Trust for donations to support the roll-out of a UK Lafora Screening Programme. Collectively, they have committed over £35,000 to this programme and we are extremely grateful for their generosity.

The Breed Council agreed to set up its own Health Fund at its October 2011 Council meeting and made an initial donation of £500 from its reserves. Thanks to the Dachshund Club and the generosity of exhibitors at their show on Saturday 19th November 2011, we added a further £460 to the newly established fund. We are very grateful to the Dachshund Club for their support and to Jeff Crawford, in particular, who managed the auction which raised this money.

We know that research into Back Disease (IVDD) to be conducted by the Animal Health Trust will require significant funding – possibly up to £20,000. So, having our own Health Fund will open up more opportunities for Dachshund owners to support the work of the Breed Council and help us target our resources in line with our Health Improvement Plans.

We hope to be able to offer an online "Donation" facility via our websites but, in the meantime, any cheques (payable to Dachshund Breed Council - Health Fund) can be sent to the Treasurer: Mrs K Herrington, 5 Linden Close, Huntington, York YO3 9RQ.
The Dachshund Breed Council

2. Planning

2.1 Breed Health Improvement Strategy

In October 2011, the KarltonIndex™ issued its first report on the work being done by UK Breed Clubs on health improvement.

The Dachshund Breed Council was delighted to be scored as the leading breed and the KI report stated:

As identified in the Spring, the Dachshund Breed Council (DBC) continues to set the benchmark in its approach to breed health. It impresses with the following:

- Establishing a balanced strategy for prioritising health issues
- Setting objectives and measures to help gauge progress
- Communicating this far and wide using a dedicated website, regular press releases and social media
- Organising regular health related events and campaigns
- Involving a wide range of people in the health agenda, including pet owners
- Regularly surveying the breed on health matters and publishing the results
- Developing very strong partnerships across the relevant breed clubs and with the KC and veterinary/scientific profession
- Being very generous in sharing information and practice.

Their approach is by far the most advanced in the UK, and rightly, the Kennel Club now links its Dachshund information pages to the DBC, thus giving prospective dachshund owners direct access to this invaluable source of information. They can do this in confidence that the information is credible, current and comprehensive. The work done by the DBC team is nothing short of outstanding.

It is always good to get recognition for what has been done, but we should not lose sight of the fact that our KarltonIndex score was only 40%. That implies we still have much more work to do and, in particular, we need to see real health improvements resulting from our efforts. Some of those improvements are likely to take years, rather than months, to achieve.

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 give us a feel 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.]

We also have a framework for tracking the progress we are making with each disease. An example for Back Disease (IVDD) is shown below:
The Dachshund Breed Council

You can find a slide-show summarising our current plans at our Health website: [here](www.dachshundhealth.org.uk).

However, we know that having plans for individual health conditions does not constitute a strategy; there are many other actions we have to take for health improvement to succeed. In summary, our Health Improvement Strategy also includes:

- Establishing effective leadership through the Breed Council, Clubs and Health & Welfare Sub-committee
- Ensuring we can raise the funds and provide the necessary resources to support our plans
- Gathering data regularly, and from different sources, on the prevalence of diseases in the breed
- Finding the right specialists to work with us on our priorities (e.g. the AHT)
- Finding a wide range of ways to communicate with, and get feedback from, key groups and individuals, including:
  - Dachshund Breed Club members
  - Breeders who are not members of Breed Clubs
  - Owners and potential owners

We also recognise that we cannot just focus on addressing the problems caused by individual diseases which Dachshunds can suffer from. We also have to ensure we can identify and address issues that may be caused by the Dachshund's conformation and by breeding practices related to overall genetic diversity.
2.2 Health Surveillance

In 2009, at our Breed Conference, we conducted our first informal Health Survey and used this to inform the development of our on-line Health Reporting tool which was launched in January 2010. The data collection format follows the same structure of categories and diseases as the Kennel Club's 2004 Survey, but with a few modifications to reflect Dachshund-specific health issues. After two years and 152 submitted reports, the picture emerging largely confirms our current Health Plan priorities.

- Back disease is the number one issue reported by owners
- Epilepsy (7 cases) and Lafora Disease (11 cases) are in the second highest reported category of conditions
- Heart disease, cancers and tumours, and skin conditions complete the top five categories

<table>
<thead>
<tr>
<th>No. of Reports by Condition Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neurological (Spinal)</td>
</tr>
<tr>
<td>Neurological (non-Spinal)</td>
</tr>
<tr>
<td>Cancer &amp; Tumour</td>
</tr>
<tr>
<td>Dermatologic</td>
</tr>
<tr>
<td>Other</td>
</tr>
<tr>
<td>Gastro-Intestinal</td>
</tr>
<tr>
<td>Dental</td>
</tr>
<tr>
<td>Immune System</td>
</tr>
<tr>
<td>Endocrine</td>
</tr>
<tr>
<td>Urogenital</td>
</tr>
<tr>
<td>Reproductive (Male)</td>
</tr>
<tr>
<td>Reproductive (Female)</td>
</tr>
<tr>
<td>Auris</td>
</tr>
<tr>
<td>Respiratory</td>
</tr>
<tr>
<td>Cerebral Vascular</td>
</tr>
</tbody>
</table>

- Back Disease:

<table>
<thead>
<tr>
<th>Intervertebral Disc Disease (Back)</th>
<th>Intervertebral Disc Disease (Neck)</th>
<th>Spondylitis - whole spine</th>
<th>Grand Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Long</td>
<td>5</td>
<td>1</td>
<td>22</td>
</tr>
<tr>
<td>Miniature Long</td>
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<td>Grand Total</td>
<td>51</td>
<td>3</td>
<td>55</td>
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</table>

- Neurological Conditions (non-spinal):

<table>
<thead>
<tr>
<th>Epilepsy</th>
<th>Fits - suspected brain tumour</th>
<th>Lafora's Disease</th>
<th>Myasthenia Gravis</th>
<th>Seizures</th>
<th>Strokes</th>
<th>Grand Total</th>
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<tr>
<td>Miniature Long</td>
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<tr>
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<td></td>
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</tr>
<tr>
<td>Miniature Wire</td>
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<tr>
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<td>Grand Total</td>
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<td>11</td>
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- Cardiac Disorders:

<table>
<thead>
<tr>
<th>Endocarditis</th>
<th>Heart failure</th>
<th>Heart Murmur</th>
<th>Heart Rhythm Disorder</th>
<th>Leaking Heart Valve</th>
<th>Mitral Valve Disease</th>
<th>Weak heart</th>
<th>Grand Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Long</td>
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<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
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<tr>
<td>Miniature Long</td>
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<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Miniature Smooth</td>
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<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>3</td>
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<tr>
<td>Miniature Wire</td>
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<td>1</td>
<td>1</td>
<td>1</td>
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<td>3</td>
</tr>
<tr>
<td>Smooth</td>
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<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Wire</td>
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<td>1</td>
<td>1</td>
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<td>3</td>
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<tr>
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<td>1</td>
<td>1</td>
<td>1</td>
<td>17</td>
</tr>
</tbody>
</table>

www.dachshundbreedcouncil.org.uk  www.dachshundhealth.org.uk
Cancers and Tumours:

Currently, we receive an average of 6 Reports each month and these are biased towards Mini Smooths, Mini Wires and Wires:

Clearly, there aren't so many Smooth and Long-haired Dachshunds registered, which perhaps accounts for the lack of reports on these two varieties. However, the lack of reports from Mini Long owners is disappointing as there is plenty of anecdotal evidence that they too have health problems which should be out in the open.

The major limitation of reports submitted on dogs that are ill, or that have died, is that we can't draw any conclusions about overall prevalence of conditions in the wider Dachshund population. Hence, in 2011, the Breed Council planned and launched its Dachs-Life 2012 Breed Survey. This will capture information from Dachshund owners between January and March 2012 and will record healthy dogs as well as those with problems. It should provide us with a wealth of information on disease prevalence and it will be interesting to see to what extent it alters our understanding of diseases in Dachshunds.

If you are reading this Report before the end of March 2012, you can download a copy of the Dachs-Life 2012 Survey here. Please complete a separate Form for each Dachshund you own.
Our Pet Advisors keep an eye out for reports of health problems discussed at www.dachshundforum.co.uk and this is another useful way of finding out about health issues that pet owners are experiencing. Their summary of recent activity is below:

### Dachshund Forum: recently reported health issues by owners:

- IVDD
- Skin Allergies – possibly food-related
- Cushing’s (one report)
- Concerns about general health decisions: to inoculate; spay; use chemical anti-flea treatments etc.

We have also had several reports from Forum members reporting questionable adverts on puppy sales websites, e.g. offering Dachshunds for sale regularly from known puppy farming areas, each time claiming that there are no papers because they are for pet homes only. In each case, apparently the photograph is the same – we are now monitoring this particular account to see how often dogs are advertised.

### 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 2011 we completed a research screening programme for the NPHP4 PRA mutation in WHDs, with the help of the AHT. We also began the initial sample collection phase of a project with the AHT to identify a genetic test for back disease. [More on these two projects later in this Report.] Other research, such as bladder control in cases of spinal damage (Cambridge Uni.) and canine epilepsy (AHT) has also been publicised and supported by the Breed Council.

Towards the end of 2011, Professor Jeff Sampson, the KC’s genetics advisor retired. We have worked closely with Jeff since the early days when PRA was identified in MLHDs and he has worked tirelessly to support so many breeds during his time at the KC. We wish him well in his retirement and will miss his help and advice.

The Breed Council’s Health and Welfare Sub-committee has also been working to build relationships with other breeds' Health Coordinators in order to share experience and learn from each other's work. For example, Judy Squires attended the Beagle and Great Dane Health Seminars in 2011. Ian Seath and Judy Squires have also met with the English Springer Spaniel Health Coordinators (ESS being another breed with cord1 PRA).

### 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 Record Supplement)
- Owners and potential owners of Dachshunds

The following table shows the main communication methods we use and who they are primarily targeted at.
The Dachshund Breed Council

<table>
<thead>
<tr>
<th>Communication methods and channels</th>
<th>Breed Club members</th>
<th>Non-Breed Club breeders</th>
<th>Owners and potential owners</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Face-to-face</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Advice given at Discover Dogs (Earl's Court and NEC)</td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Breed Conferences and Seminars</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Breed Mentoring Scheme for Judges</td>
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<td></td>
<td></td>
</tr>
<tr>
<td><strong>Telephone</strong></td>
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<td></td>
</tr>
<tr>
<td>Advice given by Breed Club Secretaries to enquiries</td>
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<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Advice given by Breed Club Committee members to enquiries</td>
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<td>✓</td>
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<tr>
<td>Advice given by Breed Club members to enquiries</td>
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<tr>
<td><strong>On-line/Digital</strong></td>
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<tr>
<td>Breed Council website (2000 visits per month)</td>
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<tr>
<td>Breed Council Health website (400 visits per month)</td>
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<tr>
<td>Breed Council Facebook page (690 followers)</td>
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<tr>
<td>Participation in DachshundForum.co.uk (546 members)</td>
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<td>✓</td>
<td></td>
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<tr>
<td>Links to DachshundForum Facebook page (2642 followers)</td>
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<td></td>
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<tr>
<td>Twitter (accounts held by Breed Club members)</td>
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<tr>
<td>Breed Council e-Newsletter (mailed to 440 people)</td>
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<tr>
<td>Press Releases to specialist and pet canine press</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Kennel Club website – Breed Descriptions/Health pages</td>
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<tr>
<td>Breed Club websites</td>
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<tr>
<td>Puppy sales websites – following up adverts</td>
<td>✓</td>
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<tr>
<td><strong>Paper-based</strong></td>
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<tr>
<td>Breed Club Newsletters</td>
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<tr>
<td>Dach-Facts Leaflets and posters at Discover Dogs</td>
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<td>✓</td>
</tr>
<tr>
<td>Dach-Facts leaflets given out at Breed Club events</td>
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<td></td>
<td>✓</td>
</tr>
</tbody>
</table>

Communications is an aspect of our work where we can never do enough. However much we communicate, there are always people who don't receive the message, those who don't notice it and those who don't understand it.

We have a relatively captive audience of Breed Club members, most of whom can be communicated with electronically and therefore we can be reasonably confident that, over time, our key messages will get through. It is also relatively easy to ensure we provide the best quality information to owners and potential owners. Our websites, our Facebook page and our participation in online discussion groups, the latter particularly via our Pet Advisors, enable us to provide good advice to existing owners and potential owners.
The Dachshund Breed Council

Our Pet Advisors have taken the following actions:

**Pet Advertising sites:**

- Have responded offering advice and guidance to ‘wanted’ adverts from prospective Dachshund owners with no reference to known health conditions (PRA, back problems, Lafora etc.) – have responded with advice and guidance, e.g. join Forum, check out DBC site.
- Requested amendment of breed advice on several advertising sites and been successful in getting them amended/improved. However, this is an ongoing battle with some of the bigger sites, who do not respond to correspondence etc.
- Posting re Breed Health Questionnaire and other health issues.

The most difficult group to get at is those people who are breeding, but who are not Breed Club members. We have worked with the KC to send specific health advice on cord1 PRA screening for MLHDs to this group, but it is a real challenge as many of these people only ever breed one litter and the first we know of it is when the litter appears in the Breed Record Supplement.

Some of the specific actions we have taken in the past year to improve our communications include:

- Restructured our main website and added pages and slide presentations on “Buying a Dachshund” and “Owning a Dachshund”
- Published a free, 44 page e-book of advice on buying and owning a Dachshund
- Published an A-Z of Dachshund Health on our Health website
- Added a Welfare page and a series of Welfare FAQs on our Health website
- Added a “Health Priorities” page to our Health website
- Added Newsletter Sign-up Forms to both our websites (available to anyone, not just Breed Club members) in August and added 115 new subscribers in the next five months from these Forms
- Added video clips to our Health website to make it more of a multi-media experience
- Added 19 one-page disease descriptions to our Health website so people can understand the prevalence and severity of various health conditions, as well as the Breed Council’s advice to puppy buyers and Dachshund owners for each of these conditions
- Updated several of our Dach-Facts leaflets with the latest advice from the Breed Council
- Added a web page on genetics and diversity, including a Fact Sheet on Genetics for Dachshund Breeders
- Added information from the KC’s Breed Records Supplement on Popular Sires and their Coefficients of Inbreeding

We were also particularly pleased in July, when the KC recognised the quality of our Health website and added a link to it from their website’s Dachshund information pages. Now, anyone investigating Dachshunds via the KC can get a direct link to our Health and Welfare web pages. We are the only breed recognised in this way by the KC.
The Dachshund Breed Council

Our Health website has increased the number of unique visitors it receives from 50/month at the start of 2011 to nearly 450 in December. Importantly, 47% of those visitors made repeat visits.

Amazingly, we had over 500 hundred visitors in the week after Crufts and 11% of our visitors in November had each visited more than 200 times during 2011.

In December 2011 we launched a new, easy to remember, web address for our Health website. It is now www.dachshundhealth.org.uk

In December 2011 we launched a new, easy to remember, web address for our Health website. It is now www.dachshundhealth.org.uk
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.

Last year we reported that our discussions with the KC’s specialists had led to a recommendation that we should pursue the development of a DNA test for back disease. During 2011 we began the first stages of a research programme, in conjunction with the AHT. Our first task was to recruit 50 Dachshunds over the age of 12 that had never suffered from a back problem, however minor. We advertised on our Facebook page and in our Newsletter for dogs and requested a small donation (£10) to cover the AHT’s costs.

Within 4 days we had 25 offers of samples and quickly achieved the next 25. In the end, we had over 80 offers by the middle of September, so we need to say a big “thank you” to everyone who helped so quickly. These samples will be used as “Controls” for the genetic research.

The next stage is to decide the criteria for “Affected” dogs and we are awaiting the advice of the AHT’s neurologists on this. It is likely we will need swab samples from dogs in the 4-7 age range who have had surgery as a result of a herniated disc. As soon as we know what is required, we will again advertise for samples.

The original project proposal by the AHT was to conduct a Whole Genome Scan (WGS) on the Control and Affected samples. However, an interesting piece of research was published during the year which might enable the AHT to narrow the search. [Genome-Wide Association Study in Dachshund: Identification of a Major Locus Affecting Intervertebral Disc Calcification – Morgensen et al: Journal of Heredity 2011.] This study suggests that a major locus on chromosome 12 contains genetic variations affecting the development of intervertebral disc calcification in the Dachshund. Earlier research had suggested a correlation between calcifications and herniations, although some counter research in 2010 disputed this link.

Download the Breed Council's information sheet here.
3.2 Lafora Disease

At the end of 2010 we reported the completion of the Wirehaired Dachshund Club’s (WHDC) test screening programme which identified approx. 10% of Miniature Wirehaired Dachshunds (MWHDs) carrying two copies of the Lafora EPM2B mutation (i.e. “Affected”). The other 90% of dogs tested were classified as “Not Affected”, but could either be “Clear” or “Carriers”.

As a result, the WHDC agreed to proceed with the implementation of a programme to make a full Clear/Carrier/Affected test available. We identified a laboratory in Germany (Centogene) that offered Carrier testing for the human form of Lafora Disease and contracted with them to carry out screening for UK MWHDs.

The announcement of this programme was well-supported by MWHD breeders and well over 200 samples have been submitted for analysis. The initial batch of samples confirmed the prevalence found in the 2010 results, with 10% of dogs being “Affected”. Unfortunately, in the initial batch of 46 samples, Centogene were unable to isolate the Clears from the Carriers and were therefore only able to report “Not affected” for the other 90% of samples.

At the end of December 2011, the situation was as follows:

Centogene have now completed their investigative work to understand the technical difficulties in differentiating Clear from Carrier results. They have confirmed that the quality of DNA available in the cheek swab samples is not an issue in carrying out a successful test. However, they believe that the quantity of DNA available is relatively low. As a consequence, the low proportion of DNA in these samples means that the presence of other proteins interferes with the separation of the Lafora Clear and Carrier components.

Centogene are now working on ways to increase the quantity of usable DNA in the samples. An alternative would be to use blood samples, but we have agreed that this is not a desirable option at this stage (as it would mean additional expense for MWHD owners).

The current timetable is as follows:

- Centogene will complete their work on increasing the quantity of available DNA before Christmas
- The original cohort of 46 samples will be re-tested
- The additional samples (approx. 200) will be tested
  - Results will be reported to the WHDC by January 16th

Most people will be aware that Nora Price (laforatesting@mypostoffice.co.uk) has been acting as Coordinator for the Lafora Screening Programme, on behalf of the Wirehaired Dachshund Club. From December 1st, she was joined by Sue Holt (Waldmeister MW), who will be helping the team with the management and analysis of results. Sue has already begun work on the identification of Carriers based on existing known “Affected” test results. With the results from 2010 and those reported by Centogene so far, we already have a list of dogs that can be assumed to be at least “Carriers” of the Lafora mutation (parents and offspring of any “Affected” dogs).

Full disclosure of the test results and details of tested dogs’ Sire/Dam is a condition of consent when opting to use the WHDC's subsidised test and was also one of the requirements of the KC Charitable Trust when they made their grant to the Club. The WHDC website will have a summary of the results received from Centogene once these have been confirmed.
The Dachshund Breed Council

On behalf of the Breed Council we want to thank Nora and those helping “behind the scenes” for all their time and effort they have committed to the Lafora Programme. Sometimes, it must feel like a thankless task, but without them, there would be no Screening Programme at all.

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.

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 3504 in total (approx. £175,000 of test fees).

We have no way of calculating the proportion of breeders using the cord1 test in each variety but a proxy is to calculate the number of tests carried out as a percentage of puppies registered. The data for 2007 to 2011 are shown in the following table:

<table>
<thead>
<tr>
<th></th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>MLHD</td>
<td>18.08%</td>
<td>15.70%</td>
<td>18.70%</td>
<td>17.00%</td>
<td>27.00%</td>
</tr>
<tr>
<td>MSHD</td>
<td>13.00%</td>
<td>10.33%</td>
<td>12.20%</td>
<td>13.00%</td>
<td>16.00%</td>
</tr>
<tr>
<td>MWHD</td>
<td>n/a</td>
<td>n/a</td>
<td>0.76%</td>
<td>5.00%</td>
<td>12.50%</td>
</tr>
</tbody>
</table>
It is probably safe to make comparisons between the three varieties and these results are what might be expected: test rates in MLHDs reflect the length of time the test has been available. MSHD rates are beginning to catch up and MWHD rates are still very much in the early adoption stage. Testing for the cord1 mutation in MWHDs became a Requirement under the KC’s Assured Breeder Scheme on July 1st 2011, but members have six months grace to come into line with this requirement (i.e. until 1st January 2012). The Requirement was announced [here](www.dachshundbreedcouncil.org.uk).

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 0.25 and we are now seeing an average of only 6% of dogs testing as “Affected”, down from 18% in 2005. More than half of all MLHDs tested in the past two 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 0.31 and we are seeing 10% “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: 5% “Affected” in 2010 and 1% in 2011. It is to be hoped that more MWHD breeders will support the use of this test and manage to keep the cord1 mutation at a low level.

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.

Download the Breed Council's information sheet [here](#).
Download a pictorial guide to the genetics of cord1 PRA [here](#).

### 3.4 Day Blindness NPHP4 in WHD

In 2011, the WHDC conducted a research screening programme with the help of the AHT for the NPHP4 mutation which causes a form of PRA that had previously been found in Scandinavian WHDs. Of the 39 dogs screened for the mutation, a single dog was found to be a Carrier (one copy of the mutant allele) and the remaining 38 dogs tested Clear (no copies of the mutant allele). Since each dog possesses two copies of the NPHP4 gene, the frequency of the mutation can be calculated as one in 78, which is equal to 0.013 (1.3 %). We therefore estimate that 97.4 % of SWHDs in the UK are Clear of the mutation, 2.57 % are Carriers and 0.017 % are Affected.

We have discussed these results with Dr. Cathryn Mellersh at the AHT in order to make recommendations to owners of SWHDs. The frequency of this mutation in the breed is very low, but it is known to be associated with dogs of Scandinavian breeding. It is therefore recommended that anyone whose dogs have these Scandinavian ancestors, or anyone planning such a mating, SHOULD make use of this NPHP4 DNA test.
Any Carrier or Affected dogs should only be mated to Clear dogs. On the basis of this research, there is no evidence that dogs of pure US or UK breeding carry this mutation. We also have no evidence from clinical eye tests that early-onset PRA is a problem in WHDs, but it is a number of years since eye testing was carried out at WHDC shows. An ophthalmologist from the AHT recently said: "clinical eye testing and genetic testing work so well together; you need both".

It is also worth reminding Mini Wire Dachshund owners that this mutation was found in 3% of the MWHDs screened by the AHT in 2010.

Download the Breed Council's information sheet here.

3.5 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 agreed to take responsibility, on behalf of the Breed Council, for investigating the condition and recommending a course of action. They are currently in discussion with the AHT on the possibility of developing a DNA test.

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]

Given the importance of carrying out clinical eye examinations (in addition to cord1 PRA DNA screening) we hope some Breed Clubs will be able to arrange clinic sessions at Club shows during 2012. Details of eye clinics around the UK are available from the Kennel Club's website: here.

Download the Breed Council's information sheet here.

3.6 Watch List

There are two conditions which have previously been investigated and are currently on our “Watch List”:

- Cardiac disorders in WHDs
- Epilepsy in WHDs

We do receive occasional reports through our Health Reporting system that these conditions occur and we hope that data from Dachs-Life 2012 will help quantify their prevalence.

Other conditions are mentioned anecdotally, but as they are rarely reported, we have insufficient evidence to be able to take action at the moment. These include:

- Epilepsy in MLHDs
- Diabetes in SHDs

Again, we hope Dachs-Life 2012 will provide further insight into the prevalence of these conditions.
The health and welfare of all pedigree dogs is in the spotlight and, rightly, there is a focus on the impact that conformation has on a dog's welfare. The Dachshund was one of the breeds highlighted in the European Convention for the Protection of Pet Animals (1987) as being “extreme” and therefore, potentially, in need of legislation to prevent the breeding of harmful defects. The convention called for Breed Standards to be amended and stated: “If these measures are not sufficient, to consider the possibility of prohibiting the breeding and for phasing out the exhibition and the selling of certain types or breeds when characteristics of these animals correspond to harmful defects”. The UK government has not signed the Convention.

There is a perception among many people that the Dachshund is a “long dog” (as in the digitally created caricature above) and, sadly, in some cases breeders and judges may have taken the view that more exaggeration is “better”. There is therefore a risk that “longer” or “lower” are seen as “better”. For that reason, in 2008, when proposing amendments to the Dachshund Breed Standard, the Breed Council introduced guidance on the length to height proportions for Dachshunds. The revisions do not, however, change what we should all have been aiming for since the early guidance was developed by JF Sayer; i.e. a dog that is moderately long and low, with sufficient clearance to be able to cover the ground easily when moving. The UK Breed Standard now says the height at the withers should be half the length of the body, measured from breastbone to rear of thigh. By comparison, the FCI Standard calls for a ratio of between 1.7:1 and 1.8:1; i.e. more compact and longer in the leg than the UK Standard.

Our educational materials and events also explain that “sufficient ground clearance” means that the height from the withers to the bottom of the keel should be approximately 75% of the height from the withers to the ground.

Under the FCI Standard the preference is for about two thirds body depth and one third ground clearance; i.e. a more “leggy” dog.
However, despite the differences between the UK and FCI Standards and their desired proportions, back disease is as much of a concern in Continental dogs as it is in UK ones. The fundamental reason behind this is that the Dachshund is a dwarf breed: a short-legged dog, not a long-bodied one.

Today, the gene responsible for the short legs is found in more than 20 breeds, including Dachshunds. It is now known that a specific mutation in the FGF4 gene is responsible for the condition known as Achondroplasia (or Chondrodysplasia). Thus, it can be seen that Dachshunds (and their cousins) actually haven’t got long backs, they have short legs. So, why do they have problems with their backs?

Back problems, specifically intervertebral disc disease (IVDD), are viewed by many people to be the result of the long backs creating mechanical problems, but as we have seen, their backs should be normal. The situation is more subtle than that and is, in part, due to the mutation that causes the short legs which also causes an abnormality in the biochemistry of the intervertebral discs. This cannot be the whole story though, as there are breeds with this mutation that apparently do not have back problems.

The intervertebral discs are disc-shaped fibrous sacs full of jelly-like material. They are found between the vertebrae and these act as shock absorbers and allow flexibility in the back. As dogs get older, the discs degenerate in all breeds of dogs, but in Dachshunds this happens at a much earlier age than other breeds. The degeneration can be seen on X-ray as calcification of the gel in the centre of the disc in Dachshunds as young as 12 to 18 months. Symptoms of disc disease can appear soon after this, although more typically, after the age of four.

As noted above, not all dogs with the FGF4 mutation have a tendency to develop back problems. As well as Dachshunds, the Basset Hound, Dandie Dinmont, and Pekingese have recognised predisposition to disc disease, but this is not seen as a serious problem in the other breeds. Even within the Dachshund group, some lines seem to have back problems more than others. All these dogs have the FGF4 mutation though, so there must be other factors involved in the predisposition to IVDD, and some would seem to have a genetic basis. Because of this, work is currently going on to identify the genes involved in these and it is hoped that a genetic test can be developed in the not too distant future, and the incidence of IVDD can be reduced by using this to inform breeding programmes.

In addition to aspects of the Dachshund’s conformation and construction which may cause health concerns, the Breed Council has also acted to prevent health issues in relation to coat colour. The Breed Standard was amended in 2009 to make it clear that so-called “Double Dapples” were unacceptable because of the risks of congenital deafness and eye defects. The KC subsequently agreed to refuse to register the puppies from any matings of two Dapple Dachshunds.

In 2011, the Council wrote to the KC to ask them to define the dilute colours “Blue” and “Isabella” also as unacceptable in the Breed Standard. These are both colours that are known to be prone to skin problems – usually referred to as Colour Dilution Alopecia (CDA). We are currently awaiting a response from the KC to our proposal.

During 2011, the Council has also reviewed the lists of Registration Colours available on the KC’s computer system and requested an update of several colour lists to ensure that a comprehensive and correct list is available to people registering puppies online. We see this as an important way to help less knowledgeable breeders correctly register their puppies’ colours and avoid any temptation for people to try to invent “rare” colours purely for commercial reasons.

www.dachshundbreedcouncil.org.uk  21  www.dachshundhealth.org.uk
3.8 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. Obviously in our pet dogs the environment isn’t going to change significantly in any great hurry, however it is still essential to maintain as large a genetic diversity as possible to reduce the chances of a bad mutation becoming so widely prevalent in the breed that it might be impossible to eradicate it. 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.

Geneticists use the “Coefficient of Inbreeding” as a measure of how inbred a dog is and how likely it is to have inherited the same versions of genes from both its sire and dam. This takes into account how many times the dog has common ancestors on both sides of the pedigree and is obviously a fairly complicated mathematical equation. The lower the average Coefficient of Inbreeding for a breed, the more genetically diverse a breed is and therefore the lower the chance of bad mutations being impossible to eradicate.

The Kennel Club launched its "Mate Select" online 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

At the date of launch, the CoI values for each of the Dachshund varieties was as follows:

- Smooth = 8.2%
- Mini Smooth = 8.1%
- Long = 8.6%
- Mini Long = 7.6%
- Wire = 6.7%
- Mini Wire = 11.3%

For comparison, some other popular breeds have the following CoI values:

- German Shepherd = 3.2%, German Shorthaired Pointer = 5.3%, Golden Retriever = 9.5%,
- Pug = 6.5%, Cavalier = 5.2%, Pekingese = 7.4%

The higher the CoI, the greater the probability (and risk) that two copies of a particular gene will be inherited from a common ancestor. The KC will no longer register puppies from mother/son, father/daughter or brother/sister combinations - these would have a CoI of at least 25%. The lower the CoI figure, the less inbred a dog is. This matters because there is well-documented evidence that as the amount of inbreeding increases, the risks of lower fertility, compromised immune systems and smaller litter sizes increases.

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 Dachshund Breed Council

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.

It has been pointed out, however, that the KC's database does not include the pedigrees of many imported dogs and therefore CoI values for these dogs are incorrectly shown as 0%. The KC's quoted Breed Average CoI figures may therefore be underestimates.

In order to identify any possible reductions in fertility over time we have analysed the average litter sizes for each variety of Dachshund over a 20 year period. We used Quarter 4 data from the Breed Record Supplement for 1990, 1995, 2000, 2005 and 2010. Over this period, using these snapshots, there appears to be no significant reduction in average litter size.
The 2010 data above for Long-haired Dachshunds appears to be a one-off dip as the 2011 Quarter 3 value is back at 5 puppies per litter, close to the 20-year average level.
It is interesting to speculate about the increase in Wire litter sizes after 1995, as this coincides with a period when a number of imported dogs were introduced. However, we don't see similar changes in average litter sizes in the other Dachshund varieties where there have also been a number of imports.

Average litter sizes for all six varieties, over the 20 year period are as follows:

<table>
<thead>
<tr>
<th>Variety</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>Puppies/Litter</td>
<td>4.6</td>
<td>3.4</td>
<td>4.8</td>
<td>3.2</td>
<td>5.3</td>
<td>3.5</td>
</tr>
</tbody>
</table>

On our Health website you can also find summaries (here) of stud dogs being used in each Dachshund variety and our analysis of "Popular Sires". The data we have gathered in 2011 show that a wide range of stud dogs are being used and plenty of dogs have CoI values below the Breed Average, to choose from.
The Dachshund Breed Council

For the first three Quarters of 2011:

<table>
<thead>
<tr>
<th>Variety</th>
<th>Number of Dogs Sired</th>
<th>Number of Litters</th>
<th>Litters per Sire</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smooth</td>
<td>27</td>
<td>38</td>
<td>1.4</td>
</tr>
<tr>
<td>Mini-Smooth</td>
<td>292</td>
<td>624</td>
<td>2.1</td>
</tr>
<tr>
<td>Long</td>
<td>28</td>
<td>33</td>
<td>1.2</td>
</tr>
<tr>
<td>Mini-Long</td>
<td>149</td>
<td>239</td>
<td>1.6</td>
</tr>
<tr>
<td>Wire</td>
<td>26</td>
<td>49</td>
<td>1.9</td>
</tr>
<tr>
<td>Mini-Wire</td>
<td>86</td>
<td>169</td>
<td>2.0</td>
</tr>
</tbody>
</table>

If we take the top 20% of sires that produce the most litters in each variety, we find they account for the following proportions of litters:

<table>
<thead>
<tr>
<th>Variety</th>
<th>Proportion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smooth</td>
<td>29%</td>
</tr>
<tr>
<td>Mini-Smooth</td>
<td>47%</td>
</tr>
<tr>
<td>Long</td>
<td>33%</td>
</tr>
<tr>
<td>Mini-Long</td>
<td>41%</td>
</tr>
<tr>
<td>Wire</td>
<td>43%</td>
</tr>
<tr>
<td>Mini-Wire</td>
<td>41%</td>
</tr>
</tbody>
</table>

We are also in the fortunate position that, with the relaxation of quarantine regulations over the past 10-15 years, a number of Dachshund breeders have been able to import overseas dogs. This influx of new blood, where it is from unrelated pedigrees, will help to increase the genetic diversity of the UK Dachshund gene pool. It has to be said though, there are risks associated with importing dogs; for example bringing in genetic mutations that may cause health problems that aren’t currently present. The WHD NPHP4 Day Blindness mutation is one such example – it had previously only been found in Scandinavian Dachshunds.

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.
4. Priorities for 2012

The Breed Council will focus on the following priority activities in 2012:

- **Back Disease (IVDD):**
  - identify and collect samples from clinically “Affected” dogs for the DNA research programme
  - agree the research approach and funding required by the AHT

- **Lafora Disease:**
  - continue to promote and roll-out the Lafora Screening Programme
  - publish the results of all dogs tested, together with advice for owners and breeders

- **Eye Disease:**
  - promote the use of clinical eye examinations in addition to the use of DNA screening

- **Dachs-Life 2012 Survey:**
  - analyse the results received from the Survey and publish the key findings
  - use the data to inform and update current Health Plans

- **Breed Conference:**
  - run an educational event to provide Dachshund owners with the latest information on breed health

- **Buyer Education:**
  - identify ways to improve the availability of breed health information on commercial puppy sales websites

- **Communication:**
  - 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.