

## **Joint Dalmatian Clubs' Health Seminar – 12 October 2014**

The Seminar was particularly well supported by some 60+ participants, and the four presentations stimulated much positive discussion and engagement.

The Clubs were fortunate to have Dr Tom Lewis as their guest speaker. He is a quantitative geneticist with a background in small animal genetics. Until recently, he was a member of the Canine Genetics team at the AHT, but has recently taken up a key role at the Kennel Club, where his knowledge and expertise will be in high demand in supporting breeds and breeders.

The programme of presentations was:

- **Results & Analysis of Breed Health Survey (Dr John Stevenson)**
- **Inbreeding & Outcrossing (Dr Tom Lewis)**
- **KC BAER Hearing Testing Scheme (Dr John Stevenson)**
- **Estimated Breeding Values (Dr Tom Lewis)**

The presentations on the Breed Health Survey and the KC BAER Testing Scheme are reproduced on this site, and can be copied and distributed freely, provided that this is done in full without any alteration either by deletion or addition.

Dr Lewis gave a fascinating insight into the genetic basis of inbreeding and outcrossing. He explained how repeated inbreeding resulted in characteristically strong traits within a line, but with the downside of inherent risks of, e.g., infertility and higher rates of illness. Examples were given of how outcrossing between individually inbred dogs could, in fact, lower inbreeding coefficients. This is one of the major benefits of the Kennel Club 'Mate Select' tool, freely available on its website. In addition to providing the coefficient of inbreeding ("COI") of any registered dog, it also enables the COI to be calculated for theoretical or planned matings. (It's also interesting to look back at past matings).

In his second presentation, Dr Lewis discussed the very important and extremely relevant concept of Estimate Breeding Values ("EBVs"), which he described as a method for the more accurate selection against complex inherited diseases. (EBVs have been applied in the UK firstly to hip dysplasia, though they also have particular relevance to reducing further the incidence of bilateral deafness in the Dalmatian).

Dr Lewis explained that certain diseases and conditions are dependent upon the status of a single gene, and hence the disposition to the disease can often be ascertained by a simple DNA test. In contrast many conditions have a more complex genetic basis, (which in many cases is sometimes poorly understood), but which conditions also can be influenced by 'environmental' factors which might include the in utero and neonatal environments, feed intake, diet, and exercise. EBVs use the information available for a given condition in all ancestors to a possible mating, and not just the intended sire and dam. They provide an estimated genetic liability for a condition and allow a more refined selection of proposed mating partners in terms of the probability of avoiding that condition.

Dr Lewis has kindly provided copies of his 2 sets of slides (though without commentary). Should anyone wish to have a copy, please email me at [john\\_stevenson@btinternet.com](mailto:john_stevenson@btinternet.com).

John Stevenson