

## **HCM Genetic Testing Using Mouth Swabs Survey** **Taking Place at the 2009 Maine Coon Cat Club Show**

At the Supreme Show in November 2008, the club secretary, Steve Butters had a conversation about genetic testing for HCM in Maine Coons with Professor Gruffydd-Jones of the Feline Veterinary Centre, Bristol University. Professor Gruffydd-Jones was interested in coming to the Maine Coon Cat Club Show to collect mouth swabs from as many Maine Coons as possible, for research into the HCM genetic testing in the Maine Coon. He contacted the club again on 5<sup>th</sup> June, asking if this would be possible. The matter was discussed at the committee meeting on 7<sup>th</sup> June and suggestions made to Bristol about how to carry it out at such short notice. The club wishes to be proactive in any research that will help our breed and its continued success & development. Obviously by that stage it was far too late to contact exhibitors individually, though we will do our best to let as many people as possible know though the internet, before show day.

Professor Gruffydd-Jones has offered to give a short talk on HCM and its genetic testing at the show. This will be open to all, including people who have not entered the show, but are interested in learning more about the disease and genetic testing. After the talk, we are hoping that many of our exhibitors will volunteer to have mouth swabs taken from their cats for genetic testing. This will help in vital research into the genes that can cause HCM, and will hopefully be of benefit to the breed and domestic cats generally.

### **A few important points:**

1. This mouth swab survey is voluntary, only owners who agree and sign up to have this short easy procedure done will have their cats tested.
2. Only cats entered at the show will be eligible to have mouth swabs taken on the day. Please do not bring extra cats with you, just for testing. It may be possible to take swab kits home to have other cats swabbed.
3. We do not need to know names of exhibitors who intend to take part, prior to the show. You sign up with staff from Bristol on the day.
4. All testing will be done confidentially, before the public are allowed in the hall.
5. No testing will be carried out on a cat until its Open Class has been judged.
6. Results used in the research survey will be confidential, no individual cat, prefix, owner or breeder will be named in any report. Individual cats' results will not be published.
7. Swabbing will be free. However, owners who wish to have the results of their own cats, can have these sent out to them. The fee for results of the HCM gene test to be sent to the owner will be £15, excellent value considering this test normally costs a lot more when done through one of the other labs.
8. Exhibitors who try to use pressure to force other people to have their cats swabbed, will be dealt with severely. People must not be made to feel uncomfortable if they do not wish to participate at this time. The committee will be monitoring the situation and have the power to stop all testing at the show, if individuals behave inappropriately, either to our guests or towards other exhibitors.
9. One point to note – there may well be more than one gene mutation for HCM, so even if your cat has already been tested for the known HCM gene, another swab could prove very useful for future research into the possibility of other gene mutations.

We sincerely hope that many exhibitors will consider having swabs done for the survey. I have personally seen the mouth swab procedure carried out by Professor Gruffydd-Jones and his team at two other breed shows, where I was judging. It was done with minimal hold-up to judges and did not cause any distress to the cats. If you want the results, then this is far

cheaper than sending your swabs to other organisations, so would be an ideal opportunity to have the procedure carried out.

*Daphne Butters, Show Manager, Maine Coon Cat Club*

### **Statement from Professor Tim Gruffydd-Jones**

#### **HCM Maine Coon Genetic Tests for Cat Show 27<sup>th</sup> June**

Cardiomyopathy is the most common type of heart disease seen in cats. It involves failure of the heart muscle leading to heart failure which usually most often appears in the form of breathing problems although sudden death and other presentations may be seen. Some cardiomyopathies are secondary to other diseases and are most commonly seen in older cats particularly related to hyperthyroidism. Cardiomyopathy can also occur in younger cats and in this case it is often breed related and familial. Familial cardiomyopathy has been seen in many breeds, including Ragdolls, Siberians, Bengals and other breeds including Maine Coons. Familial cardiomyopathy is also well recognised in humans.

The genetic basis of familial cardiomyopathy in humans appears to be quite complex and numerous genetic mutations have been identified. It is likely that this is also the case in feline familial cardiomyopathies. The first genetic mutation associated with cardiomyopathy in cats was described in Maine Coons by Dr Kate Meurs in Washington. Another defect has now also been described in Ragdolls. This defect is on the same gene but is a different mutation. The test of the gene mutation for HCM in Maine Coons has now been set up at Bristol based on the test Kate Meurs developed but using a different detection method.

We would like to determine the prevalence of the gene mutation in Maine Coons in the UK and are appealing to breeders to help by allowing us to collect samples from their cats at the show on June 27<sup>th</sup>. A mouth swab is required for the test and it is a very simple procedure which cats accept very well. We aim to collect samples after cats have been judged for their open classes and if any cat is bothered unduly by the procedure we shall not include it in the study.

There are some questions over how results should be interpreted but the results can be helpful to breeder in deciding on the breeding plans for their cats. It would also be helpful to establish how prevalent the HCM gene is in the UK. It is quite likely that other gene mutations and factors may also influence whether or not cardiomyopathy develops. The technology of identifying these mutations is developing very rapidly and the samples we collect at the show will be useful for a collaborative study that we have planned with Dr Leslie Lyons from Veterinary Genetic Davis California to look for other possible factors that we hope will lead to tests that breeders can use to avoid this distressing problem in the future.

*Professor Tim Gruffydd-Jones*