

## **Progress Report for PLL**

*Submitted by Dr. Gary Johnson and Dr. Joan Coates,  
University of Missouri*

At the University of Missouri we have been working on the development of DNA markers for the heritable disease in Jack Russell Terriers: primary lens luxation (or PLL), we have some progress to report.

The PLL work is funded by an extension of a lens luxation/glaucoma grant awarded a few years ago from the AKC/CHF. We have assembled a pedigree 64 Jack Russell Terriers including 27 affected with lens luxation. We are doing this work in collaboration with two English investigators, Dr. David Sargan and Dr. Cathryn Mellersch. These English investigators have identified the chromosomal location of the mutation causing PLL in Lancashire Heelers and Miniature Bull Terriers and have shared that information with us. Our experiments indicate that the mutation responsible for PLL in Jack Russell Terriers is at this same chromosomal location. We are currently doing experiments to narrow the borders of this chromosomal region and examining genes in this region from affected dogs to discover the PLL-causing mutation. Once the mutation is discovered, we will devise a DNA marker assay to identify puppies genetically programmed to develop PLL as adults and to identify PLL carriers that should only be bred to mates known to be "normal" by a DNA test. Our funding from this project will end at the end of this year (2006). We are working hard to complete the studies by that time; however, if this is not possible, we will be looking for additional funding to continue this study. In addition, our work will go faster if we can obtain blood for isolation of DNA from additional affected dogs and their close relatives.