

Inaugural Betty Garvin Memorial Lecture and Sunday Seminars – 2007 DCA National Specialty

By Irvin B. Krukenkamp, M.D.
Chairman, Health and Research Committee

The first Betty Garvin Memorial Speaker was Danika Bannasch DVM, PhD from the University of California at Davis. Dr. Bannasch captivated a standing room only audience with her hot off the presses discovery that the gene responsible for the permanent uric acid defect in Dalmatians has just been identified! It codes for a transporter protein that is found in liver and kidney tissue. This transporter protein is missing in 100% of AKC registered Dalmatians. Gene therapy by selective breeding (the Dalmatian – Pointer cross) has replaced the functioning gene back into the high uric acid Dalmatian genome, restored the normal transporter protein function, and successfully produced Low Uric Acid (LUA) Dalmatians! Spot urinary uric acid testing in adult LUA Dalmatians demonstrates that the phenotype persists, as expected, into adulthood. Increasing the numbers of LUA Dalmatians is currently the only method available to restore a functioning copy of the DNA that codes for the missing transporter protein.

This exciting discovery comes just in the nick of time, as the second speaker at this year's National Seminars, Susanne Hughes, DVM reported on the results of her two season (2005 & 2006) DCA Ultrasound Clinics. She collected data on 173 female and 202 male Dalmatians and found that 71.3% of males and 25.4% of females had sediment present in their urinary bladders! While cautioning that extrapolation of these findings to the general population of Dalmatians may not be valid, she points out that clinically, problems associated with urate calculus formation affects males almost exclusively. Measures that decrease purine intake result in less uric acid excretion, and importantly, lowering urine concentration by adding lots of water – floating kibble in water, and providing free access to water – are mandatory maintenance measures. Interestingly, at the 2006 Specialty one intact male and three intact female LUA (“backcross”) Dalmatians also underwent ultrasound and were found to be free of any sediment or calculi.

Dr. Hughes provided a written report at the seminars in which she states:

“Since all purebred Dalmatians are homozygous recessive for the huu gene responsible for hyperuricosuria, it is not possible for breeders to select for normal uric acid production in this gene pool. For breeders desiring to correct this defect, continued research into the Dalmatian x Pointer backcross project is certainly warranted.”

Dr. Mary-Lynn Jensen, PhD rounded out the evening with a review of the history of the Dalmatian Backcross Project, and the inheritance of Uric Acid Production (see her recent *Spotter* articles for a complete overview). It is important to remember that there has been one, and only one, Dalmatian – Pointer cross breeding, performed by Dr. Robert Schaible, PhD in 1972. After nearly 35 years of backcross breeding to Dalmatians, the project is now in the 11th generation. DNA and genetic testing by Dr. Bannasch has shown that the parentage and pedigree records of the project are completely error free, and that these dogs have 99.6% of the same genetic make-up as a Dalmatian.

Betty Garvin would have been thrilled to see the excitement in the room, which persisted after more than two hours of lectures and another hour of panel discussion. Perhaps the most fun, however, was the chance to meet one of our treasured spotted friends, a young adult male from a backcross breeding. He not only entertained us, but he also demonstrated that the desirable characteristic Dalmatian spotting pattern is clearly possible.

The DCA Board of Governors voted at their 2007 National Specialty meeting to form a Low Uric Acid Dalmatian Study Group. Mr. Dennis Trout from Guardian Dalmatians was approved to serve as Study Group Director. More information will be forthcoming through the DCA website, or feel free to contact Dennis (dennistrout@comcast.net) directly.



Support DCAF

Donate and Bid on Auction Items

On the web at

<http://www.dcaf.org/auctionmain.html>