

UC Davis - CCAH Update

November 7, 2011

We have just completed a very exhaustive overview of genetic diversity within the Pug Dog, Italian Greyhound and Standard Poodle Breeds as part of studies into some autoimmune diseases that they suffer. This information has yielded some important information on the genetic diversity and genetic structure of these three breeds that will be very helpful in managing their selections of mates. We also developed a genetic test that will allow Pug Dog breeders to reduce the incidence of a certain autoimmune disease (pug dog encephalitis) thirteen fold in their puppies without losing any more genetic diversity from the breed. Pug Dogs have lost a considerable amount of their genetic diversity, while in the case of Poodles and Italian Greyhounds, there is still considerable genetic diversity left in the breed but it is partitioned in a very unbalanced manner. Most of the diversity is found in only 30% of the dogs, leading to a substantial loss of diversity in the bulk of the population.

I have asked Gordon to discuss such a project with you and others in the Brittany registry. We could also use one STAR (Student training applied research) summer students for such a project. It is an honor for them to do such a project, and they are paid \$5000 for their efforts. We have about \$9000 in endowment income from the Marvin D. Nelson Jr. endowment, which gives us enough to start such a project, especially if we match that with \$7500 from our CCAH research funds. Gordon and I will remain in contact with you on such a project, should your board consider it something that you would like to see done.

Sincerely,
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Director, Center for Companion Animal Health

Director, Veterinary Genetics Laboratory
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P.S. We have hundreds of DNA samples on hand, so no collection would be needed for such a project. It would only involve healthy dogs and a cross section of the breed.