



THE WINN FELINE FOUNDATION

For the Health and Well-Being of All Cats

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Color Genetics in Cats and DNA Tests

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Genetic research is advancing very rapidly for the domestic cat and a variety of researchers are identifying DNA changes that cause diseases and variations in the appearance of our furry feline companions. The DNA variants that cause polycystic kidney disease (*PKD*), hypertrophic cardiomyopathy (*HCM*) and the variants that cause several coat colors, such as solid, points, sepia, albino, chocolate and cinnamon are now all available as genetic tests in cats. In addition, a panel of anonymous genetic markers has been developed that can be used to “DNA fingerprint or profile” a cat for use in identification or parentage testing purposes. This panel has been tested by researchers around the world as is being used as a “standard” for cat identification. Because these tests are DNA based, DNA samples can be submitted by breeders and owners in the form of swabs (cytological brushes or now even cotton swabs) by collection from the cheek and gums of the cat. Thus, test breedings for these conditions or traits is no longer required and breeders and owners can determine if the condition will be present in the future, in the case of *PKD* and *HCM*, or if the cat carries specific genes, such as points or chocolate. The DNA identification panel can confirm any pedigree and strongly support parentage of an individual. These tests should make breeding programs healthier and less costly. Additionally, breeders can incorporate “new bloodlines” without the fear of bringing in these traits if undesired.

With the advent of these new genetic tests, a plethora of laboratories have launched cat testing in order to enter the feline market. Since swabs can be easily obtained and easily shipped all over the world, breeders can virtually use any laboratory in the world for their DNA testing. Not all laboratories have the same experience, customer service, quality control, quality assurance or prices. Some genetic tests are patented and require a license, others are freely available, thus all laboratories may not offer the same genetic tests. Some genetic tests are supported by more or less scientific data that could influence the efficacy of the test and the recommendations that pertain to positive or negative results. Some breed groups are familiar with genetics tests, such as

Korat and Abyssinian breeders, however, these newer tests now influence a majority of breeds and breeders around the world. Not all genetic tests have the same error rate, background supportive information and hence recommendations. This seminar will review the pros and cons, the ups and downs of genetic tests and service laboratories.