

Pet DNA analysis is turning into big business

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or my birthday this year, I decided to treat myself to a genealogical DNA test to learn about my ethnic heritage.

Genetic testing goes beyond discovering global ancestry. There's forensic DNA profiling, paternity testing, and an array of medical genetic testing available. As this technology explodes, it's also becoming an increasingly popular option for pet owners and professional breeders.

Breed testing is the major focus of this growing division of the pet industry. Mixed-breed dog owners can only guess what's in the mix based on looks and behavior, but studies show this method to be accurate only 25 percent of the time. Curious owners want to know.

In 2015, *Fortune* magazine reported that a New York City co-op forced its tenants to provide breed documentation of their dogs and/or DNA profiles to determine their mix, since the building association had banned 27 breeds.

Fortune put to the test two of the leading providers of dog DNA breed tests: Mars Veterinary's Wisdom Panel and the Canadian firm DNA My Dog. The breed results differed slightly, but both agreed on the major breed components of the same test sample subject.

According to the article, some animal shelters use these tests to determine adoption suitability, thus aiding in animal placement.

To Test or Not to Test

Written by Janet Goodman, BT Contributor
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Juli Warner, corporate affairs manager at Mars Veterinary, tells the *BT* that the company has sold more than 600,000 Wisdom Panel DNA breed test kits since its launch in 2007, and have a robust shelter donation program. “But there’s not a wide philosophy of using the product among shelters yet,” says Warner. As a former rescue coordinator, she understands. “Shelters haven’t had the time or financial ability to use the tests,” she says.

The Mars DogTrax breed ancestry test, launched in early 2014, is a product for dog shelters that gives a quick five- to six-day result turnaround. Warner has found that shelters post test results on dog kennels and on social media. Some buy single test kits for hard-to-adopt dogs to provide more detailed information as an extra marketing campaign.

Hillsborough County Pet Resource Center in Tampa has received a \$10,000 grant to start a pilot DNA breed test program to help adopt out its large dogs. Atlanta and San Francisco area shelters are also testing to raise more interest in their adoptees.

But at the Humane Society of Greater Miami, executive director Laurie Hoffman says there’s no interest in using DNA breed tests as shelter adoption tools. Kathleen Labrada, chief of shelter operations and enforcement at Miami-Dade County Animal Services, also doesn’t feel DNA serves a role in shelter adoptions. “The pet’s individual personality, behavior, and interactions with the adopter are the key factors in finding the perfect match.”

Test kits on the market do acknowledge that they give limited information and that results are less than 100 percent accurate. Breed testing alone doesn’t give dog owners specific health information, but knowing the mixed-breed’s heritage can alert one to diseases and conditions more common in certain breeds.

Most DNA breed tests ask for a cheek swab sample from your dog. Each breed has its own distinctive genetic markers. The testing company maintains a database of these breed signatures -- the more markers in its database, the more accurate the results -- and compares them to the sample of your dog’s markers.

With the slogan “Dogs can’t talk, but their DNA can,” Wisdom Panel 4.0 costs \$84.99 and offers two- to three-week test results, a 250-breed database, a predicted-weight profile, and screening for drug sensitivity and exercise-induced collapse. Other Mars products screen for purebred

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verification and disease-causing genetic mutations.

Neogen Genomics in Lincoln, Nebraska, caters to professional dog and livestock breeders. Its GeneSeek Genomic Profiler predicts traits that beef seed stock could pass onto progeny.

The American Kennel Club (AKC) uses Neogen as its DNA service provider. The AKC DNA profiles cost \$45 and are only for AKC registerable breeds. This program verifies parentage and genetic identity if both parents have DNA on file with the AKC. Reputable breeders use the test to prove the legitimacy of their litters. It doesn't test for breed identity.

According to the AKC, "Voluntary DNA programs have resulted in an unprecedented level of accuracy to the AKC registry by evaluating the parentage of many AKC dogs and litters." The program was established in 1998, and through 2015, the organization had collected more than 678,700 DNA profiles.

DDC Veterinary offers a wide selection of animal genetic tests. Its canine DNA coat color testing helps breeders predict colors of litters. Equine DNA tests authenticate horse pedigrees and gives proof of parentage. Bird-gender determination is a concern for avian breeders, and DDC has a test for that. Its feline DNA test screens for the polycystic kidney disease gene in Persians, Himalayans, exotics, and their crosses.

Janet Goodman is a Miami Shores-based dog trainer, animal-talent wrangler, and principal of Good Dog Bad Dog Inc. Contact her at info@gooddogbaddogmiami.com.

Feedback: letters@biscaynetimes.com