



The Truth Behind Pet Food

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Abstract

The question we set out to tackle is whether pet food companies appropriately label their products and are honest about what they put in their products. We hypothesized that some pet food companies falsely advertise. We aimed to identify the various ingredients in the pet foods and then compare these findings to what is represented on the labels of each product. We conducted our experiment twice because the first time we were unable to gather any data. The first time around we tested 4 canned samples, 1 dry sample, and two natural samples of dog food. In our 2nd experiment, we tested only the 4 canned samples, because we believed we had the best chance of extracting DNA from these samples. After attempting our experiment twice, we were unable to identify any rings of DNA in the agarose gel. Although we didn't find any conclusive results, the experience was informative and very rewarding.

Introduction

With our pet population on the rise, we decided to investigate the foods that our pets are eating. In New York City, the ownership rate of pets is about one pet for every three households, an average which doesn't even come close to the national one which is somewhere around 60%. Household pets have become more commonplace both in New York City and nationally. This year, Americans will spend roughly \$60 billion on their pets, a figure that has continued to increase over the past few decades. According to the American Pet Products Association, pet food sales have nearly doubled since 2000, now spending at well over \$22 billion. Large food-processing companies have jumped headfirst into this lucrative market. Brands such as Blue Buffalo are gaining popularity for their claims of a healthier product. Although Blue Buffalo presents itself as a company committed to providing healthful meals for pets, there is evidence that they are vastly misrepresenting their products. Purina, after examining the Blue Buffalo product, found that it was falsely advertising to appear more enticing to owners. In 2008 Purina reported about Blue Buffalo to the National Advertising Division which launched an investigation, concluding in 2014, that forced Blue Buffalo to change its advertising.

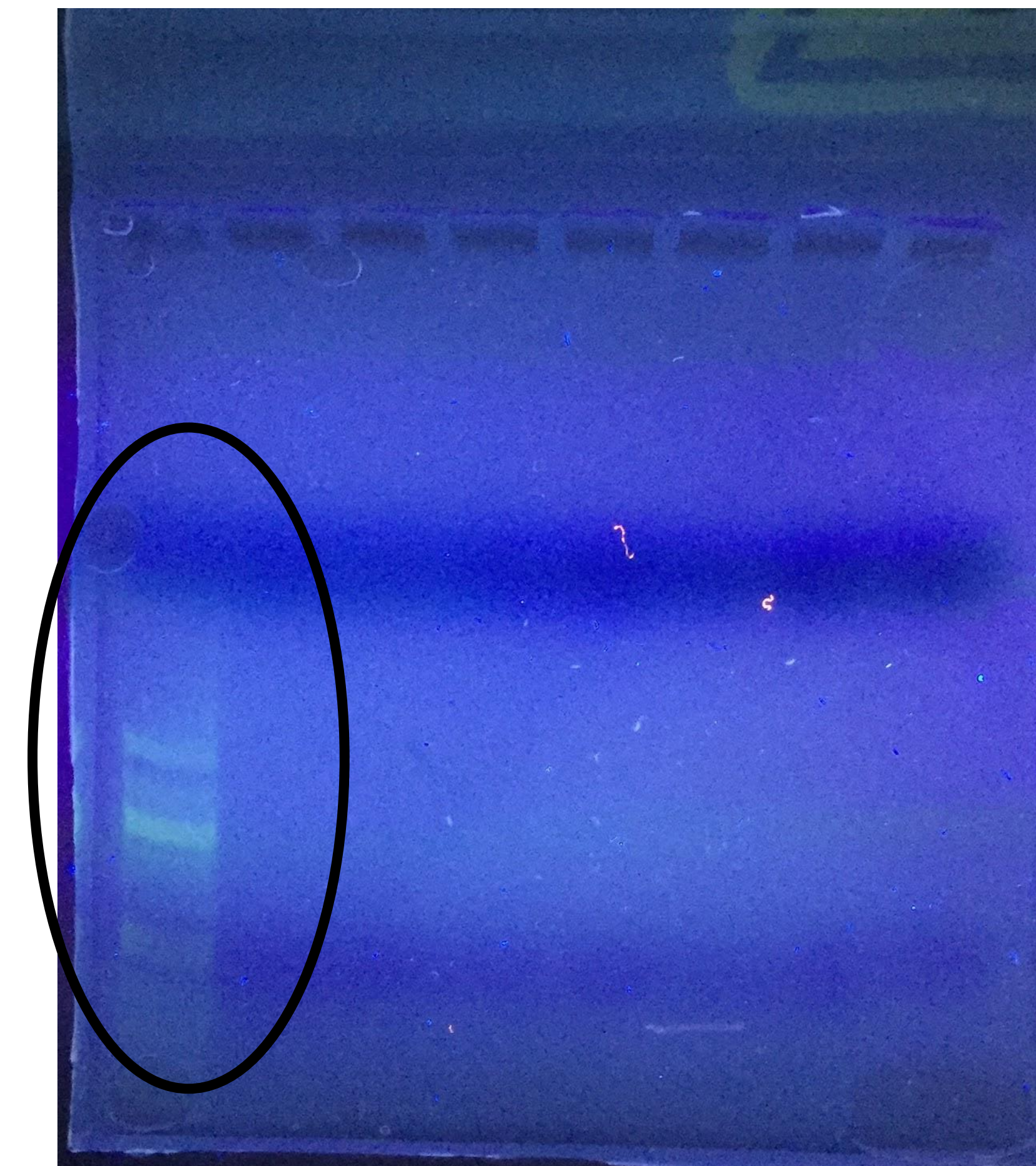
With all this considered, the logical question we asked was whether other large companies like Blue Buffalo are actually being honest about what is really in their products. In theory, pet food should contain only ingredients stated on the packaging that are healthy and safe for pets to eat, but in practice we wanted to see if this was true. In our experiment, we set out to identify the contents and nutrition of various brands of dog food to see if they were advertising their products appropriately.

We set out to find possible pet food mislabeling, believing that pet food ingredients would vary from the labeled ingredients. Additionally, we hoped we would be able to determine which pet foods would be healthiest for pets to consume based on what meats and plants they contained. Having researched that other studies did indeed find some discrepancies in pet food labeling, we were hopeful that our experiment could lead to similar conclusions.

Materials & Methods

Materials and methods:

1. We ran the experiment twice. The first time we tested seven samples and the second time we tested four samples. The four samples were canned dog food made by Hill's, Purina, Pedigree, and Blue Buffalo
2. We took samples from the cans and extracted DNA.
3. We ran a Polymerase Chain Reaction (PCR) to amplify vertebrate and invertebrate genes because we intended to look plant meat ratios.
 - a. First we put the PCR tubes in the thermal cycler to be denatured
 - b. Next we planned on analyzing the DNA through Gel electrophoresis in which DNA is pulled through agarose gel at different speeds based on the size of the DNA
4. On our initial trial we could not see any rings of DNA, so we restarted the experiment. From step 1
5. We received no results again on our second trial.



Results

Unfortunately after conducting two trials of the experiment, the only identifiable rings of DNA in the agarose gel belonged to the marker. Because we couldn't see any rings, we couldn't get reliable data about what plant and animal DNA was in each of our samples. Although our results were inconclusive, the ingredients of pet food are still uncertain.



Discussion

Even though we could not prove or disprove our hypothesis through the experiment, we still learned from this incredible experience. We learned that PCR experiments can sometimes be unreliable and ineffective methods of experimentation. Scientific breakthroughs take thousands of experiments, so an error, like ours, is just often part of the scientific process. Even though we were not able to produce results, Chapman university ran a similar experiment with results that affirm our suspicion of improper labeling. In their experiment, of the 52 products tested, only 31 were labeled properly. It concluded that, "Although there are pet food regulations in place in the United States which are enforced by federal and state entities, there is still a lack of information on meat species authentication as well as accidental mislabeling and intentional food fraud." We agree that increased supervision needs to be implemented in order to protect our pets. We believe that the raw material could have been over processed and the DNA could have been destroyed. Pets, like humans, should probably be consuming a more natural diet.

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