

A dogged Investigation

By James P. Louviere

The tale of the other dog

Fernanda Santos loved to tinker, trying to improve things, even paper clips and mousetraps. On her birthday her husband gave her a puppy, so she set out to make a better dog food. Pretty soon she came up with a mixture of special vitamins she was proud of, and she began feeding it to his puppy.

After a year Fernanda was very pleased with the way the puppy had grown, and she showed her friends pictures of the dog.

"That's nothing", one friend said. "What did the dog look like before you started giving it the special food?"

So Fernanda produced pictures of the dog when it was a tiny puppy. By comparing the pictures you could see that the puppy had indeed grown.

"That's still nothing", the friend countered. "All puppies grow."

Undaunted, Fernanda set out to raise another puppy on her special food.

Fortunately, it happened that her son had brought home a collie puppy just days before. Fernanda went to the pound and brought home a second dog, a small mutt. Thus began her second experiment.

To prove that her dog food was better than standard dog food, Fernanda added her special vitamin mixture to some commercial dog food and labeled it A. Then she labeled a second kind of dog food B and did not add her special mixture. Her son's collie received food A and the mutt received food B.

After a year of this, she brought the dogs to the company picnic and proudly displayed them both. The collie had grown nearly twice the size of the mutt.

"You think you made some pretty good dog food, huh?" said Fernanda's rival at work, Sunny. "You can't say nothin' about how good your special food is. Collies always grow more than little mutts."

Howard Jones was skeptical too, "You never fed them the same stuff, Fernanda. You have to feed them both the same stuff to prove anything."

Fernanda realized that she had made two mistakes this time. And she vowed that the third time her conclusions would be so compelling that no one could doubt them.

So Fernanda went back to work. She invested some of her savings in twin male beagles, identical puppies from the same litter. She restricted the puppies to a standard dry dog meal, and let them drink only the water from her garden hose. She called them Dog A and Dog B. Dog A got Fernanda's special vitamin mixture with its dog meal and Dog B did not.

That year's picnic was quite a success. Fernanda brought her dogs and a scale. From the dogs' identical collar hung brass letters of identical mass saying "Dog A" and "Dog B". She even had brought the two bags of dog food, identical except for the addition of her vitamins to bag A.

"Hey, you have quite a thing going here," admitted Sunny smiling and petting Dog A.

"Dog A sure did grow," said Howard. "But poor little Dog B; if you don't want it I'll take it home".

Dog A weighed a full 2 kilograms more than its brother Dog B, after only 1 year, and there wasn't a bit of extra fat beneath its glossy coat. Dog B was as delightful and sweet as Dog A and its coat was as shiny, but it was not a bit heavier than the average beagle.

Fernanda had learned from her experience, and this last time she had videotaped her beagles from the day she bought them. When her boss, Mr. Garcia, called her in to congratulate her on her successful dog food work, Fernanda popped a cassette into the office video system and Garcia loved it. Within 2 hours, Fernanda and Mr. Garcia were in the company limo on their way to make a presentation to a leading dog food company. Within a month, Fernanda had business cards identifying her as Fernanda D. Santos, Esq., Experimental Dietician and a six figure contract with the dog food company to market her special vitamin mix worldwide.

Exp
#1.

Exp
#3.

Exp
#2.

Name _____
Period ____ Date _____A Dogged Investigation

Instructions: After reading the story "A Dogged Investigation" answer the following questions in the spaces provided.

1. What was wrong with Fernanda's first dog food Investigation?
2. What two mistakes did she make in her second experiment?
3. What is a **variable** ?
4. What is a control, and why is it important in a scientific experiment? Which was the control dog and which was the experimental dog in Fernanda's third attempt?
5. Why is it important to limit the number of experimental variables in an experiment to one?
6. Could you copy and do Fernanda's experiment? Why is it important to be able to repeat experiments in Science?
7. What other kinds of experiments could you do to test Fernanda's conclusion about the effect of her dog vitamins?