

The Cost of Convenience

Raw and Rendered Animal By-Products as Ingredients in Dog Diets

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Introduction

Animal by-products have been a major contributor to the growth and expansion of the world's pet food industry...The AAFCO states that only those amounts of hair, feathers, hooves, horn, and so on, that are naturally occurring in raw animal materials may be present in processed animal by-products. . .The objective of this experiment was to use ileally cannulated dogs to quantify the effects of selected animal byproducts, both raw and rendered, on nutrient intake.

Experimental Procedures

Six purpose-bred mature female dogs, with hound bloodlines...were surgically prepared with an ileal cannula...Dogs were allowed a minimum of 2 wk of recovery before the experiment began...During the first period of the experiment, one animal developed abscesses around her cannula site. Despite an aggressive treatment...the dog did not recover and was euthanized. The diets were made and supplied by Farmland Industries Inc. (Kansas City, MO). The use of Elizabethan collars was necessary for some dogs to deter them from pulling the collection bag from their cannula.

Implications

Ileal digestibility values for diets containing rendered by-products were somewhat lower than those for diets containing fresh, raw ingredients.



Each time you buy a bag or can of pet food from the store shelves, your money may be supporting companion animal laboratory research. I do not refer to what are commonly known as “feeding trials” but rather to actual laboratory experiments, in which dogs are surgically altered, suffer, and often die in order to study various aspects of canine diet digestibility. If, after reading this article, you can still look at a bag of dog food without sadness and rage, then I have done a poor job indeed of putting these words to the page.

What is Ileal Cannulation?

Ileal cannulation is a common method used in experiments to study digestibility of various dietary ingredients. These experiments are routinely conducted in the Small Animal Science Departments of public universities throughout the country. Many animals are used in these experiments, including roosters, pigs, sheep, horses, cattle, and dogs. Although I feel that none of these animals should be made to suffer in this manner, it is the use of dogs in these experiments with which I take issue here.

In ileal cannulation, the animal is anesthetized and a T-shaped device made of PVC (called a cannula) is surgically implanted into a hole made in the ileum (a spot at the end of the small intestine). This cannula protrudes from the animal's side, allowing laboratory technicians to attach a bag and drain out digested matter. This “digesta” is then analyzed to determine the digestibility of various products in the test diets. Researchers prefer this method to simply collecting and analyzing stools, since fecal matter contains a high percentage of microbes formed in the large intestine. To avoid this contamination, the researchers prefer to collect the digested matter from the end of the small intestine (the ileum) just prior to it reaching the large intestine.

Once a dog has had the cannula surgically implanted, it can no longer be housed with other dogs, as there is a danger of them chewing at or otherwise dislodging the cannula. These dogs, once cannulated, are housed in individual cages and must wear Elizabethan or No-Bite collars at all times to prevent them from interfering with the cannulas.

A 1996 study by the University of Florida at Gainesville, titled “*Ileal cannulation and associated complications in dogs*,” reads, “Ileal cannulation allows small intestinal digestion to be measured alone by comparing nutrient intake with ileal excretion of chyme. Nevertheless, ileal cannulation and its associated complications are not well documented in dogs. We describe the implantation of a simple T-cannula in the ileum of nine dogs for an **average duration of 26 weeks**. Established cannulas were well tolerated, and **one dog retained the cannula for 14 months**. Nevertheless, ileal effluent proved extremely caustic, and the incidence of complications in the immediate postoperative period was high. **Only one dog had an unremarkable postoperative course**. Complications included abscessation and cannula extrusion, followed by severe excoriation and ulceration of the skin. This excoriation could be prevented only by immediate surgical closure of the fistula. Chronic ileal cannulation is therefore a viable technique in dogs, but careful monitoring of the cannula site is essential. Dogs should be subjected to this procedure only if adequate veterinary and nursing care is available. **It is preferable to maintain a colony of long-term cannulated dogs** rather than to implant cannulas as needed.”

From this abstract we learn that complications are common (8 of 9 dogs in this study had complications) and painful (excoriation is defined as an abraded area where the skin is torn or worn off), and that because of the high incidence of complications, researchers prefer to take the dogs that have relatively few problems and keep them cannulated over a long period of time (a year or more) to be used in subsequent experiments.

Researchers tried this same technique on cats with abysmal results. In a 1999 study at the University of Tennessee, nine cats were surgically implanted with cannulas. The results and conclusions are quoted here: “RESULTS: Postsurgical complications included cannula displacement and leakage, with subsequent abscessation and skin inflammation. Owing to these complications, the cannulas were removed from four of the six cats. Similar complications developed after removal of the cannulas. In the only attempt to collect a sample, obtaining a 0.5-ml sample of ileal fluid from one cannula took 3 hours. Of the six cats, four died or were euthanized. CONCLUSION: Use of cannulas is not a viable technique of collecting ileal fluid samples in cats.”

I think we can conclude that ileal cannulation is not a simple procedure. One study states that “the dogs recovered relatively quickly from the procedure.” Relatively quickly in this instance was five days. Most of the studies state that the dogs were given two weeks to recover from the surgery before beginning the experiment. A large number of the studies note specific problems associated with the surgery. Most often, the complications are subcutaneous abscesses that are treated topically with cream or iodine. Larger abscesses are treated with oral or subcutaneous injections of antibiotics. Sometimes, dogs have abscesses that are so large, they must be treated surgically. Lastly, it is often noted that complications become so severe that one or more dogs in the study either die or must be euthanized.

Who Are These Dogs?

Beagles are the number one dog used in these experiments. I don't know why, but I believe it has something to do with a book published in 1970 titled, “*The Beagle as an Experimental Dog*.” This book, written by A.C. Andersen is quoted as a resource in several of the studies. I have not read this book, but it is used as a reference in many ileal cannulation experiments.

Where do the universities get their supply of beagles? Most of the studies refer to “purpose-bred” dogs. These dogs come from USDA licensed Class A dealers - puppy mills and other breeders that breed and raise dogs solely for profit with no consideration for the animals themselves. From birth, these puppies are destined for laboratory research. They live out their lives in cages, first at the breeder, then in transportation, then in a laboratory, where they are maimed and mutilated until they either die or are killed. Many of the studies list the name and city of the kennel from which the dogs were obtained. Although I object to puppy mills on a moral basis, please note that it is not a crime to raise dogs for sale to laboratories, nor is it a crime to buy them for use in experimental research.

Why Must Our Dogs Suffer?

Short answer – so pet food manufacturers can make bigger profits. Although sponsoring companies may claim that the research is being conducted for health studies, this is not the case. In a single hour at the computer, I was able to find 23 studies, all published in various Animal Science Journals, that have nothing to do with improving the health of our companion animals and have everything to do with making a cheaper dog food. These are not obsolete studies. They range from 1996 to 2005. They are being conducted even as you read this.

One study, from 1996 at the University of Florida states, “Accurate measurement of small intestinal digestibility is important in dogs because **it allows the formulation of pet foods that provide optimal nutrition at minimal cost.**”

Another such study from the same university states, “The cannulation of dogs to measure small intestinal digestibility is becoming more common. **Pet food manufacturers require accurate measurement of nutrient digestibility to formulate diets that provide optimum nutrition at minimum cost.**”

One study, conducted at the University of Illinois was done to compare the effects of using a hybrid species of corn in dog foods. The study states, “**Corn is a commonly used ingredient in dry pet foods because there is a stable supply and it is a relatively inexpensive source of nutrients.**”

A 1999 study to determine the “optimal concentration of soybean hull inclusion in dog diets,” describes the animals used and their housing during the experiment. Keep in mind that all these experiments are sanctioned by the universities and follow protocols from a publication titled, *Guide for the Care and Use of Laboratory Animals*. In this study, “Thirty beagles (mean body weight, 12.2 plus/minus 2.5 kg; mean age, 5.5 yr) were grouped by weight and sex and randomly assigned to five diets (six dogs per treatment). There were 15 neutered males, 2 intact males, and 13 intact females. Dogs were housed individually in stainless steel metabolism cages in a temperature-controlled room (mean temperature, 20 plus/minus 1 degree C). A 12-h dark:

12-h light cycle was used. The cages measured 1 cubic meter. The floor of the cage was wire mesh, with urine drip trays underneath.” The results of this study showed: “Soybean hulls are an efficacious source of dietary fiber for dogs. Their compositional characteristics and their lack of negative effects on nutrient digestion at the ileum or in the total tract, as well as their lack of negative effects on fecal characteristics, allow them to be included in premium dog foods in concentrations ranging from 7.g to 9.0% of diet dry matter.” Thirty beagles suffered for that conclusion.

In a 1999 study by the University of Illinois and The Iams Company, six female dogs were cannulized to determine the differences in digestibility between six different high-starch flours (barley, corn, potato, rice, sorghum, and wheat). The conclusion was that any of the flours could be used without “negative effects on digestion” but that too much barley caused diarrhea. In the actual words of the study, “Fecal consistency for dogs consuming the barley treatment indicate that diets containing large amounts (>50%) of barley may not be advantageous for dog owners who house their animals indoors for most of the day.”

One of the studies cited has nothing to do with cannulation at all. In this study, researchers did not use the ileal cannulation method, but relied on blood tests and stool samples for their data. I include it in this article because I find it at least as disturbing as the ileal cannulation studies. The dogs used in this study were either very old or very young. The title of the study is “Diet affects nutrient digestibility, hematology, and serum chemistry of senior and weanling dogs.” It was conducted at the University of Illinois in 2004. Twenty four beagles were used in the study. Twelve were seniors (**eleven years old**) and twelve were puppies (**8 weeks old**). The study lasted 12 months. The thought of 12 aging beagles spending their last year in a lab cage is almost too much to bear. The only thing worse is the thought of the 12 puppies spending those precious puppy months in the same manner. Even though no surgery was involved and the study doesn’t mention any deaths, this study seems to me to be almost more heart rending than the others. The purpose of the study was to determine how a diet of brewer’s rice, chicken by-product meal and poultry fat compares to one of corn, soybean meal, wheat middlings and meat and bone meal.

One last study I want to mention was conducted in 2003 by the University of Illinois and is titled, “Nutrient digestibilities, microbial populations, and protein catabolites as affected by fructan supplementation of dog diets.” The purpose of the experiment was “to elucidate the effects of selected dietary concentrations of scFOS and OF on nutrient digestibilities, gastrointestinal tract microbial populations, and fecal and urinary protein fermentation endproduct components of dogs.” Four “purpose-bred” adult female dogs “with hound bloodlines” (I assume this to mean beagles) were surgically implanted with ileal cannulas for this experiment. After reading the entire text of the study and spending a great deal of time in the dictionary, I came to the conclusion that these four dogs suffered for the sole purpose of determining whether or not the inclusion of fructans (fermentable carbohydrates) can produce stools that don’t smell bad. I have recently seen companies selling canine dietary supplements that change the pH of your dog’s urine so that your grass won’t turn yellow when he pees. It is not so great a leap to imagine a canine diet formulated specifically to reduce stool odor. The people who will buy the food (and I have no doubt that such a food would prove extremely profitable) will have no idea that “purpose-bred” beagles were caged and mutilated in the university laboratories to pave the way for their convenience.

Who Is Responsible For The Suffering?

I’ve described the horrors of ileal cannulation, the sources of the dogs, and the rationale behind the experimentation. The only thing left is the finger-pointing. Whose fault is it? Who is to blame for these atrocities?

We are. Dog owners who buy into the idea of convenience; who decades ago decided that buying a bag of dog food at the store was easier than feeding our dogs the old fashioned way. Dog owners who, on blind faith, believe all the ads that say only the pet food manufacturers know what’s best for our dogs. Dog owners who, in our ignorance and naiveté, never thought to ask how the nutritional guidelines were formulated or how the manufacturers spend their research and development money.

We are the demand and the pet food manufacturers the supply. I could sit here at my computer and say they are the bad guys and we are totally innocent, but that is not true. Ignorance is no excuse. My goal in writing this article is to stamp out some of that ignorance. It is with sadness that I realize our innocence dies along with our ignorance. Once you know the truth, you can never again buy that bag of dog food without knowing that you are contributing to the problem. You now have the knowledge that part of the money you paid for that food went to fund an experiment in which precious, innocent dogs who have never known (and will never know) the love of a human being are living out their lives in laboratory cages, with PVC pipes surgically implanted into their bodies. They are dying so that a manufacturer knows whether or not they can use a cheaper form of grain without substantially reducing the nutritional effects of their food. Every time you see your brand of pet food with the phrase “newly formulated” or “great new taste,” you’ll know the cost of the new formula or that great taste was paid by our nation’s dogs.

I am not saying that pet food manufacturers are blameless. I am only saying that they are in this business for profit. They don't deny it and have no reason to do so. The Iams Company, on its web site www.iams.com lists its corporate beliefs. One of those stated beliefs is, "We run our business to earn a reasonable return on investment." It's neither illegal nor unethical to run a business for profit. I do, however, take issue with posted statements regarding their position on research and development. Their research policy states: "We will not fund or participate in any study requiring or resulting in the euthanasia of cats or dogs. We will only conduct research that is the veterinary equivalent to nutritional or medical studies acceptable on people, including: urine, feces, blood and immune cell analysis, allergy tests, and skin and muscle biopsies, for which adequate anesthesia and analgesics will be provided whenever necessary." They also state that their nutritional studies "enhance pet well-being" and that, "These types of feeding studies are the same kind that a human would volunteer to join." I cannot imagine a human that would volunteer for an ileal cannulation experiment. Nor do these dogs have any choice in the matter.

I cannot place the entire blame on the pet food manufacturers. And I am certainly not singling out The Iams Company. They are mentioned here only because their name is listed in three of the studies cited in this article. Alpo Pet Foods, Inc. and The Alpo Research Fellowship (of Nestle Purina PetCare) funded one of the University of Florida studies that I cite. I do not for a moment believe that Iams and Purina are the only pet food manufacturers that obtain data in this manner. I do know, however, that if people weren't spending billions of dollars every year on processed pet foods, there would be no need for these experiments.

So I keep coming back to us. The dog owners. The nation of advertising. The nation of convenience. If we are the problem, what, then, is the solution? How do we fix what we created? The answer is obvious, but requires great commitment. Stop buying the food. I stopped feeding processed dog food more than four years ago. I didn't do it out of outrage at the pet food manufacturers and their companion animal laboratory research. I didn't even know about the experiments then. I did it because it became glaringly apparent to me that dog food was killing my dog. So I stopped. And I began feeding him myself. Today, Dixon is alive and healthy and thriving. I didn't need a hundred beagles to die in a laboratory cage to tell me how to feed my dog. **Neither do you.** The cost of convenience has become too great. It is a price I am not willing to pay. I hope after reading this article, you will decide that it is a price you, too, will no longer pay.

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Pets By Nature

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