

# What's Wrong with Feeding Fresh Food to Your Pet?

Veterinarians are the only health care professionals who think their patients should avoid fresh foods and eat processed convenience food instead. Ever wondered why?

Reviewed by [Dr. Becker](#)

## STORY AT-A-GLANCE

- Dr. Joe Bartges, a veterinary internist and nutritionist is involved in CANWI's first research project to evaluate the effects of advanced glycation end-products in processed pet food on the health of dogs and cats
- CANWI will receive no funding from big donors, the government or the pet food industry — all funding must come from pet parents

***Editor's Note: This article is a reprint. It was originally published May 22, 2015.***

Dr. Joe Bartges is a Professor of Internal Medicine and Nutrition at the University of Georgia College of Veterinary Medicine.

In addition to his teaching he does medicine clinics, and is also involved in developing a nutritional support service. It's difficult to become a veterinarian, and even tougher to become board-certified (which takes another three to four years).

Dr. Bartges is DOUBLE board-certified in internal medicine and nutrition, and he has graciously volunteered to help with the Companion Animal Nutrition and Wellness Institute (CANWI) pet nutrition research project.

What's really special is that while he's a veterinary internist specializing in urology and nephrology, Dr. Bartges has also maintained a deep interest in animal nutrition, which is somewhat rare in the veterinary world.

## Pet Food Studies Are Traditionally Funded by Pet Food Companies Looking to Market New Products

Dr. Bartges shared his thoughts on why there's no funding available for independent pet nutrition research.

*"Most of the research is performed by the pet food companies themselves. It's a very large business worth billions of dollars a year globally and still growing."*

*Large pet food companies have the money to do their own internal research on their products, whereas the smaller companies don't.*

*The type of research pet food companies do is more about how they can formulate diets and be the first to come to market with a specific product. It is a very competitive market and these companies put research monies into product development and marketing.*

*Unfortunately, the information from their studies is not always published or available; the pet food company who conducted the research owns it or it is qualified as proprietary.*

*I think also that there isn't any one particular organization or group that focuses on research, specifically in the area of pet nutrition.*

*Some pet nutrition research can be applied to human nutrition. This is called translational research, but overall I think the problem is that nutrition for companion animals is very specific.*

*If we don't have the pet food industry providing funds and we don't have lots of organizations with a focus on research, then there is little funding for independent pet nutrition research available."*

There's not a whole lot of money to be made doing independent pet food nutrition research. Other than helping pet parents make better choices, there's not necessarily any money, unless you're making a therapeutic or prescription diet. So it's altruistic research — helping to identify nutritional pitfalls.

## **Advanced Glycation End-Products (AGE)**

CANWI is the first organization of its kind with the express purpose of conducting independent pet nutrition research.

One of the first topics CANWI will focus on is the problem of advanced glycation end-products (AGE) in processed pet food. Since most pet parents have never heard of AGEs, Dr. Bartges explained what they are and why they're a problem.

*"Pet parents may not be aware of it in those terms," says Dr. Bartges, "but they are exposed to it every day."*

*"Toasting bread, the brownness of the bread, the flavor that you get from that or caramelizing onions, searing and grilling steak — those are all examples where advanced glycated end-products are formed."*

*In this case they are something we want, because they change the flavor and create new flavors that we tend to like.*

*Dietary advanced glycated end-products or AGEs are compounds that occur in our foods. The heating and processing causes sugars to 'glycate' or stick onto the proteins — this reaction changes protein structures."*

*We now know that this same reaction occurs naturally in our bodies and results in changes in tissue protein structures. It occurs as a result of aging so we have AGEs forming in our bodies.*

*The pools of AGEs in our body are increased by our intake of dietary AGEs found in heat-processed foods. This increase of AGEs in our bodies from eating heat processed foods has been associated with advanced aging and chronic disease states. For example, studies are showing us that these AGEs are associated with disease states such as diabetes mellitus.*

*The A1C they measure in diabetics is actually hemoglobin, the oxygen carrying protein in red blood cells, that has been glycated — meaning a glucose has attached to it. And these AGEs are associated with diabetic complications such as retinal changes, cataracts, and blood vessel and kidney changes seen in diabetics.*

*In the dog, when we see cataracts and aging changes in the lens of the eye, this again is the work of AGE reactions in the eye. In chronic disease states like diabetes, there are studies showing an association with the dietary intake of AGEs. We may like the flavors dietary AGEs give processed foods, but their accumulation in our bodies has been linked with aging, cancer, inflammatory diseases such as arthritis, kidney disease, cardiovascular disease, and others.*

## **Advanced Glycated End-Products in Pet Food**

"With pet foods, there's very little known about AGEs," says Dr. Bartges.

*"We realize dry foods are, in essence, baked and canned foods are heat-processed, which helps with infectious agents — that is a good thing. But you have ingredients in pet foods that are mixed together and heat processed and these ingredients contain the proteins and sugars that result in dietary AGEs.*

*You can see advanced glycated end-products as part of the whole processing of pet foods. They tend to be higher in the canned food because they're heat-processed for a longer period of time than the dry foods."*

One study measured advanced glycated end-products in 60 to 70 dog and cat foods.

*"What was found," explained Dr. Bartges, "is that when feeding heat processed pet foods the potential intake of AGEs was roughly 120 times greater for dogs than what an adult person would eat on a weight basis."*

*"They estimated that cats would consume roughly 40 times greater AGEs than what an adult person would eat. Now imagine this is at every meal, on every day for the life of our dogs or cats. Dogs and cats, because of the heat processing of the pet foods they eat every day, are potentially exposed to much more dietary AGEs than we are in our daily lives."*

Dr. Bartges shares how to respond to people who will hear or read this information and say "Who cares?" Why should they care?

*"The advantage or the benefit of advanced glycated end-products is flavor," he explained. "That's why we care, because it gives that extra flavor to our foods. Obviously for pet food companies, the heat processing is beneficial because it helps with the shelf life and makes the pet food safer from infectious diseases and handling standpoints.*

*But why do we care? There are studies in humans, and even more so in experimental models using other animals that AGEs are involved in aging and chronic diseases. These diseases include diabetes mellitus, osteoarthritis, pancreatitis, liver disease, kidney disease, skin disease, and even certain types of cancers.*

*I mean there are a lot of organs that can be affected as these dietary advanced glycated end-products build up in the body. As pet parents, why do we care? Well, dogs and cats typically eat processed foods from the time they're weaned and started on food, until the very end of their life.*

*The question becomes, 'Is there a role of dietary AGEs in some of the diseases we see in pets?' [o]r 'Why hasn't the longevity of dogs and cats made leaps and bounds with the pet foods we provide them?' [a]nd 'Can we provide diets that will improve quality of life for our pets?'"*

## **Processed Pet Food Is a Multi-Billion Dollar Business Worldwide**

Veterinarians are the only group of healthcare professionals that suggest it could be detrimental to feed anything besides processed pet food to dogs and cats, from the time they're weaned until the time they die.

Conventional vets seem to feel that feeding any type of fresh food to pets could be a risk, yet medical doctors tell people to eat more fresh foods. The conventional veterinarian is saying, "You must maintain your pets on entirely processed foodstuffs their whole lives."

There has been very little research on the ramifications of feeding an entirely processed diet to a pet, day in and day out their whole life. Dr. Bartges explains why he thinks we only have a handful of small studies on this subject.

*"It would be easy to come up with reasons," he replied. "I don't know the specifics because I'm not in the pet food industry, but I think there are a lot of reasons. One is I think that in the last 50 to 80 years, the move was away from feeding table scraps to convenience, then ways of processing foods to make it convenient for pet owners.*

*The focus was providing safe, convenient foods and this may be where we went wrong. Pet parents sort of became the focus. From feeding table scraps, to having bags of meal that you would add fresh meat to it, back in the early 1900s, to the complete and balanced foods based on what information is available today.*

*The idea was as our lives became more and more hectic, that it's easy to open a bag of food, scoop out some cups, leave it there, walk away and deal with the other things that you need to do.*

*That bag of food, because of the way it's processed and preserved, can last for weeks to months, and still maintain quality of some sort. Again, processed pet food is a big business. It's a multi-multi-billion dollar business. And the majority of foods that are sold for dogs and cats are processed foods.*

*There are other companies that are looking at alternative diets. They tend to be a very small percentage of the market. There are companies that are looking at newer ways to process foods to take out some of these potential problems, like heat processing.*

*But we just don't have the data yet because nobody's done it. I think the main reason is this is the way we've been doing it for 40, 50 or more years. Why change when we have built a good business? Many dogs and cats do okay on this food."*

Dr. Richard Pitcairn had a great quote several years ago. He said, "You can feed pets conveniently or you can feed pets healthfully, but you can't do both." If you're looking to optimize health, you're going to have to sacrifice convenience.

Many parents nourish their kids on the fast food, dry food menu, off the dollar menu. They're not seeing any nutritional issues, maybe for the first 20 or 30, or even 40 to 50 years of eating off the dollar menu. But common sense would tell you that you could, at some point, have health ramifications from nourishing your body in that fashion.

## **First-of-Its-Kind Pet Nutrition Study to Look at the Effects of AGEs on the Bodies of Dogs and Cats**

Dr. Bartges shared what his goals are for the pet food research project the CANWI organization is planning. His response:

*"I think, again, there's a little bit of information out there that dogs and cats are exposed to markedly greater amounts of these advanced glycated end-products than humans are, even in Western civilization. Again, we know that there is some association with certain diseases.*

*For those diseases, human nutritionists will make recommendations to lower the amount of advanced glycated end-products by telling us to eat less processed, fresher, wholesome foods. Don't eat grilled or fried foods, or at least eat them in moderation, because everything in moderation is probably still the best answer.*

*Our interest in this is to start to look at the role of dietary AGEs in pet foods. We know what levels are in pet foods based on one study, but nobody's looked at what are the levels in blood, or what are the influences of those dietary AGE levels in pets. We're looking at different levels of AGEs in diets fed to dogs and then seeing if their blood levels change, because then we know that the tissue levels would change as well.*

*We're also looking at, 'Are there any at least short-term other changes that occur within the body that we can measure?' We're doing that by a few other means. One is something called metabolomics, which looks at basically the end-products of diet, genetics and environment in biological samples. We look at, 'Are there changes in the way the body produces other metabolic compounds?'*

*We're also looking at the microbiome in the gut, because we know the microbiome has a huge role in health and disease. Maybe the dietary AGEs don't specifically themselves do something, but instead cause changes in the gut microbiome.*

*Perhaps AGEs may still have an indirect influence by changing metabolism — so we will look at the metabolomics — and/or by changing the way the GI tract responds with the microbes in there, which again would have potentially short- or long-term effects.*

*If we could document this, 'Do we see changes with different intakes of dietary AGEs and how quickly are these changes happening,' the next step would be, 'Are there now diseases, as we know there are in humans, where lowering dietary advanced glycated end-products would be beneficial?'*

*Are the AGEs high in disease states, and if so, can we modify that with diet? Does that, in the long run, help to improve response to treatment, quality of life and quantity of life?"*

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