



## Optimal Nutrition

Do better diets support longer lives? CANWI wants to find out.

By Dr. Donna Raditic,  
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**Veterinary nutritionists** can be found in universities, teaching veterinary students and treating patients with special dietary needs. We may work in the pet food industry as consultants or by contributing to research, development and education efforts. We also work with veterinarians and their clients, providing answers or input aimed at resolving dietary quandaries.

As a veterinarian with more than 25 years' experience and a Diplomate of the American College of Veterinary Nutrition (ACVN), I enjoy doing a little of all these.



For example, I may develop a homemade diet for a Labrador with copper liver storage disease, a very particular liver problem. Or I'll check in with one of my consulting clients to see how a picky young German Shepherd with recurring diarrhea is doing with his new diet. A presentation for a large veterinary meeting focusing on diets that can be used to not only treat disease states, but also to perhaps prevent them may be on my to-do list. Conference

calls with veterinary students to discuss nutritional biochemistry and how cats differ from humans and dogs also occupy my time.

But my favorite part of the day is reaching out to pet parents through my work with the Companion Animal Nutrition and Wellness Institute (CANWI), a grassroots not-for-profit organization focusing on optimal nutrition and wellness to improve and extend the lives of our furry children and best friends.

At CANWI, we recognize the difficulty people have in accessing companion-animal nutrition information not sponsored by the pet food industry, a multibillion-dollar operation instrumental in providing the bulk of consumer information as well as in supporting veterinary nutrition research and education. While we agree that the industry's goals align with the need for safe nutrition, we firmly believe that there is also a need for unbiased information on the subject.

As part of this effort, CANWI raises funds for veterinary education, including forums and programs that educate veterinary technicians, students and the pet-vested community. In fall 2016, CANWI named Danielle Conway, DVM, as its first Veterinary Nutrition Resident; the organization will support her two-year formal training program at the University of Tennessee College of Veterinary Medicine. Typically, this sort of advanced training is funded by the pet food industry. As CANWI president Patricia Micka noted when announcing the award, "To the best of our knowledge, this is the first time a nonprofit is funding a Veterinary Nutrition Residency program. It is our intention to make this an ongoing program and not a one-time event."

Another CANWI mission is to fund scientific research to identify healthy, or what we term optimal or best, nutrition for our companion animals. Every day, we field

queries from people interested in feeding their dogs and cats the best possible diet, one that will sustain longer, healthier lives.

While we humans are told to eat plenty of fresh foods, most of our dogs and cats are fed processed commercial foods throughout their lives. What effect does this have—do processed foods provide optimal nutrition and support longevity?

Heat processing improves nutrient availability, shelf life and food safety, but it is also known to cause the Maillard reaction, chemical reactions between amino acids in proteins and sugars that give browned food its distinctive and appealing flavor. Similar Maillard reactions occur in body tissues, especially with aging, and form what are termed advanced glycation end products, or AGEs. Diets high in Maillard reaction products (MRPs) have been shown to increase levels of AGEs in the body.

Studies in humans and rodents have revealed that elevated levels of AGEs in tissues are associated with a number of age-related ailments, including diabetes, cataracts, osteoarthritis, atherosclerosis and vascular diseases. The absorption of MRPs from the diet and their accumulation in the body's AGE pool may be one of the ways foods have an impact on age-related diseases in both humans and animals.

The role of dietary MRPs on health and disease in dogs and cats is unknown. Prior studies measuring MRPs in dry and canned dog and cat diets have shown that the

intake of MRPs is estimated to be 122 times higher in dogs and 38 times higher in cats than the average intake for an adult human on a body-weight basis. In our study, we want to determine if it's possible to modify canine and feline MRP intake by making dietary adjustments. Investigating the effects of a highly processed diet with high levels of MRPs compared to one that is more like homemade—or a whole food diet—with low levels of MRPs may help us unravel diet's effects on our dogs' and cats' lives.

CANWI has given me a forum to share my veterinary experiences and my specialty training. It is truly my honor to work with the organization, which enables me to connect my passion for education and research with my desire to share the best nutrition and veterinary care with all my beloved animal patients, present and future. **B**

*Dr. Raditic invites you to join her in supporting this important work with a donation to CANWI, either online through PayPal or via the mail. For more information, go to [companionanimalnutritionandwellnessinstitute.org](http://companionanimalnutritionandwellnessinstitute.org).*

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