

Homemade dog food recipes can be risky business, study finds

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When it comes to canine cuisine, home cooking may not be all it's cracked up to be, reports a team of researchers at the University of California, Davis, School of Veterinary Medicine.

In what is thought to be the largest ever nutritional evaluation of recipes for home-prepared dog foods, the researchers found that very few of 200 recipes analyzed provided all of the essential nutrients in amounts adequate for meeting established canine health standards

Findings from the study appear in the June issue of the *Journal of the American Veterinary Medical Association*.

"Some owners prefer to prepare their dogs' food at home because they feel they have better control over the animals' diet, want to provide a more natural food or simply don't trust pet food companies," said Jennifer Larsen, an assistant professor of clinical nutrition at the William R. Pritchard Veterinary Medical Teaching Hospital at UC Davis and lead author on the study.

"The results of this study, however, indicate that most available recipes for healthy dogs, even those published in books by veterinarians, do not provide essential nutrients in the quantities required by the dog," Larsen said. "It is extremely difficult for the average pet owner—or even veterinarians—to come up with balanced recipes to create appropriate meals that are safe for long-term use," she said.

"Homemade food is a great option for many pets, but we recommend that owners avoid general recipes from books and the Internet and instead consult with a board-certified veterinary nutritionist," Larsen said. "These specialists have advanced training in nutrition to help formulate customized and nutritionally appropriate recipes."

Larsen, together with Jonathan Stockman, a veterinarian and second-year resident in [clinical nutrition](#) at UC Davis, selected 200 recipes from 34 different sources, including veterinary textbooks, pet care books and web sites. They evaluated both the ingredients and the instructions for each recipe, using a computer-based program to quantify the nutritional content of the food described by each recipe, as well as the specificity of the instructions.

They found that only nine of the 200 recipes—including eight of the nine written by veterinarians—provided all essential nutrients in concentrations that met the minimum standards established for adult dogs by the Association of American Feed Control Officials, while only five recipes—all written by veterinarians—provided [essential nutrients](#) in concentrations that met the National Research Council's Minimum Requirements for adult dogs.

Although recipes written by veterinarians were less likely to have any nutrient deficiencies—and those being less severe—most still had at least one deficiency. Interestingly, only four of the 200 recipes were written by board-certified veterinary nutritionists, and all of those four recipes had acceptable nutrient profiles for adult dogs.

Overall, 95 percent of the 200 recipes examined resulted in food that was lacking in the necessary levels of at least one essential nutrient, and more than 83 percent of the recipes had multiple nutrient deficiencies.

"Some of the deficiencies, particularly those related to choline, vitamin

D, zinc and vitamin E, could result in significant health problems such as immune dysfunction, accumulation of fat in the liver and musculoskeletal abnormalities," Larsen said.

"Also, since so many recipes shared the same deficiencies, rotation of recipes and the feeding of different foods to achieve variety—known as the 'balance over time concept'—is not likely to correct these problems," she said.

The researchers also found that 92 percent of the recipes contained vague or incomplete instructions that required the pet owner to make at least one assumption related to the ingredients, method of preparation or the use of supplement-type products. Furthermore, 85 percent of the recipes did not provide calorie information for the recipe or advise for what size of pet the recipe was intended.

In order to corroborate the results of the computer-based analysis, the researchers also conducted laboratory analysis of nutrient content for the dog food that was prepared according to the instructions specified by 15 of the 200 recipes. The 15 recipes were selected to represent a variety of sources including books and websites, and a variety of ingredients.

In comparing the results from the laboratory analysis with the computer-based analysis for these 15 recipes, the researchers found that both assessment methods agreed on deficiencies and excesses, with only a few discrepancies.

"The data support the concept that computer-based analysis is a reliable method for detecting inadequacies in recipes for homemade dog food," Larsen said.

Other UC Davis researchers collaborating on this study were Professor Andrea Fascetti, chief of the nutrition service at the William R.

Pritchard Veterinary Medical Teaching Hospital, and Professor Philip Kass, a veterinary epidemiologist.

The study was supported by the Center for Companion Animal Health at the UC Davis School of Veterinary Medicine. Larsen is a co-owner of DVM Consulting Inc., which licenses the software used to analyze the [recipes](#).

Provided by UC Davis

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