VIEWS

Letters to the Editor

Differing opinions of raw food diet research

The article titled "Evaluation of raw food diets for dogs" (*JAVMA*, Mar 1, 2001, pp 705–709) by Drs. Lisa Freeman and Kathryn Michel contains inaccurate data and serious errors that we believe defame raw food diets, including the one made by our company, Sojourner Farms. The data reported were significantly different than data obtained in tests by independent laboratories, and we disagree with the conclusions reported. For example, in some cases the reported vitamin D concentrations were nearly twice that of cod liver oil, a food known to possess the highest concentration of vitamin D of any natural source. Considering that our products are made from only natural food sources, without any synthetic additives, that level of vitamin D would be impossible by a factor of at least ten. The authors also failed to take into consideration the variety of foods that we advocate adding to our base diet. As a result of these and other errors, one must question the testing methods used and the credibility of the authors' results and conclusions.

One must remember that the pet food industry created the Association of American Feed Control Officials (AAFCO) and thus the chemical analysis procedures used to evaluate a food's nutritional adequacy. Rather than relying solely on chemical analysis, why not study the animals' health? Using only a chemical analysis to determine a food's nutritional adequacy also ignores crucial information on the biological availability and digestibility of a food. It has been proven that digestive enzymes found in fresh food enhance biological availability, whereas extreme heat (common to the preparation of commercial pet foods) leads to the depletion of enzymes and, therefore, depressed levels of digestible energy. In addition,

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nutrition experts have long advised against replacing all nutritious foods in the diet with synthetic supplements, because supplements do not contain all of the known and unknown nutritional benefits of nutritious foods. Put simply, the assumption that pets must live on man-made, processed pellets is just as preposterous as claiming that humans, or any other living animal, could not live without the same. There is no argument in the human medical community against the benefits of eating a variety of fresh foods. Yet this article advocates feeding processed diets that are completely void of any fresh foods. This is the opposite of what undomesticated animals eat in their natural habitats.

Our goal is to simply assist people who want to feed fresh, homemade food in providing their animals with a healthy, well-balanced diet. Our feeding program is used in clinics across the country and is backed by 15 years of consistently excellent results. It is our opinion that inaccurate data and the resulting false conclusions about time-tested diets detracts from the true goal of anyone involved in veterinary medicine, and that is the health and well-being of animals.

Ward Johnson, President, Sojourner Farms
Cathy Sinning, DVM
Minneapolis, Minn

I would like to express my appreciation to Drs. Freeman and Michel for their article titled "Evaluation of raw food diets for dogs" (*JAVMA*, Mar 1, 2001, pp 705–709). I suspect that they may receive criticism from a vocal minority who are critical of processed pet food, so I wanted to affirm how helpful their article was for other veterinarians such as myself.

I am confident that there is room for advancement in our knowledge of pet nutrition and the production and manufacturing of commercial pet foods, so I applaud the *JAVMA* for addressing this topic. However, it is difficult for practitioners who are bombarded by numerous and often conflicting nutritional claims from pet food manufacturers to make rational dietary recommendations for our clients. This has been compounded by the information and misinformation available to pet owners on the Internet, as acknowledged by the authors. Although the data and conclusions in the article were limited by the small number of animals included in the study, I found the article to be logical, straightforward, and helpful.

J. Kris Hankison, DVM
Plover, Wis

I was dismayed to read the Timely Topics in Nutrition article titled "Evaluation of raw food diets for dogs" (*JAVMA*, Mar 1, 2001, pp 705-709). In my opinion, the authors begin with a bias against raw food diets and against the notion that an educated, dedicated pet owner could effectively feed their pet without dependence on a "…credentialed veterinary nutritionist." There are so many items of contention in this article that I could not easily address them all. However, the most egregious bias involves the actual diet analysis. They proceed to analyze a single serving after acknowledging that "the diet is expected to be balanced overall, but each meal is not balanced." From that extremely limited sample, the authors declare "…there are clearly nutritional and health risks…" and "…the diets tested had nutrient deficiencies or excesses that could cause serious health problems when used in a long-term feeding program." In my opinion, that is mere speculation, because the diets were not evaluated in terms of a long-term feeding program.

Robert J. Gaston, DVM
Harrison, Ohio

Drs. Freeman and Michel respond:

We appreciate the letters submitted by these readers and the discussion generated by our recent article. We sympathize with Dr. Hankison about the abundant information regarding nutrition and pet foods and the difficulty that results for both veterinarians and pet owners in making rational dietary choices. It was our intention to contribute to the ongoing dialogue, and we are pleased that Dr. Hankison found the information useful.

Dr. Gaston was concerned about the fact that we analyzed a single sample of each of the three homemade raw food diets, despite the fact that the authors of many of the homemade raw food diet recipes stress balance over time. For example, the bones and raw food (BARF) diet recommends that over a 2- to 3-week period, a diet would include 10 meals of bones combined with four meals of green leafy vegetables, one meal of starchy food, one meal of grains and legumes, one meal of meat, two meals of milk, and one or two meals of offal. The three homemade diets we tested were actually prepared to be representative of the dogs' intake over time, and this appears to be the way that some owners are feeding raw food diets at home. We encourage others to undertake additional long-term testing on these diets.

Mr. Johnson and Dr. Sinning are correct that the vitamin D concentrations originally reported in Tables 1 and 2 of our article were in error (*see* p 1582). In fact, these tables contained several computational errors. We regret them and are preparing corrected tables that will be submitted for publication in the *JAVMA* as soon as possible. Even considering these corrections, nutritional imbalances were present, and the overall reservations about raw food diets expressed in our article remain unchanged. We wholeheartedly agree with Mr. Johnson and Dr. Sinning that chemical analysis should not be the sole method to evaluate a food's nutritional adequacy. It is certainly possible to formulate a pet food that would meet the Association of American Feed Control Officials (AAFCO) profiles but not pass AAFCO animal feeding trials. In fact, we both recommend that owners feed diets that have undergone feeding trials according to AAFCO protocols.

We are aware of the controversy surrounding the subject of raw food diets and hope that our article will fuel additional research in this area.

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Renal failure associated with ingestion of grapes or raisins in dogs

We would like to report the following preliminary observations regarding ingestion of large quantities of grapes or raisins in dogs.

A review of cases from the ASPCA Animal Poison Control Center (APCC) computerized database revealed 10 dogs with evidence of ingestion of large amounts of either raisins (five dogs) or grapes (five dogs). Eight of the cases were reported from 1999 through March 2001. The estimated amount of raisins or grapes was known in four dogs and ranged between 9 oz and 2 lb (0.41 and 1.1 oz/kg). The grapes ingested included fresh grapes from grocery stores or vines in private yards, or grape crushings or fermented grapes from wineries. Red seedless grapes were involved in three of five cases. The raisins involved were mostly commercial sun-dried raisins of various brands.

Vomiting was reported in all dogs and began within the first few hours of ingestion. Most affected dogs passed partially digested raisins or grapes in the vomitus, feces, or both. Anorexia (six dogs), diarrhea (five dogs), lethargy (four dogs), and signs of abdominal pain (three dogs) were also reported. Clinical signs continued for several days to three weeks following ingestion.

Hypercalcemia (seven dogs; range, 12.3 to 26 mg Ca/dl), hyperphosphatemia (seven dogs; range, 6.4 to 22 mg PO_4/dl), increased Ca × PO_4 product (seven dogs; range 81 to 390 mg/dl), high BUN concentrations (nine dogs; range 23 to 209 mg/dl), and high serum creatinine concentrations (nine dogs; range 4.3 to 18 mg/dl) developed 24 hours to several days after ingestion. Oliguria or anuria, with or without isosthenuria, was reported in five dogs.

Two dogs died and three were euthanatized because of poor response to treatment. Five dogs recovered with aggressive treatment, which lasted up to three weeks in some cases. Treatments included fluids administered IV, furosemide, dopamine, and mannitol. One dog that underwent peritoneal dialysis for several days recovered completely. Prognosis was poor in dogs with oliguric or anuric renal failure.

Histopathologic findings in one dog were consistent with mild renal tubular damage and metastatic mineralization of numerous tissues, but the pathologist judged the severity of these lesions to be insufficient to explain the severity of the dog's clinical illness. To date, results of screening for various contaminants (eg, heavy metals, mycotoxins) have been negative, although further results are pending.

We are unaware of any published reports in which ingestion of grapes or raisins have been associated with development of renal failure in dogs or other animals. Until more data are available, we currently recommend that ingestion of large amounts of grapes or raisins in dogs be managed aggressively. Decontamination measures (eg, emesis, lavage, activated

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charcoal) should be taken after recent ingestions. Fluids should be administered for a minimum of 48 hours and serum chemistry values monitored for 72 hours for the development of acute renal failure.

The cause of acute renal failure in these dogs is unknown. Some of the possibilities include contamination with mold toxins (eg, ochratoxins); presence of high amounts of vitamin D_3 or similar compounds; contamination with pesticides, heavy metals, or other environmental toxins; or some as yet unknown intrinsic toxin(s). The APCC veterinary staff will continue to investigate this development.

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