



## About the Authors



**Lisa M. Freeman, DVM, PhD, DACVN** completed her DVM degree at Tufts Cummings School of Veterinary Medicine and received a PhD in Nutrition from Tufts Friedman School of Nutrition Science and Policy. After a residency in Clinical Nutrition, she was board-certified by the American College of Veterinary Nutrition. She has been on faculty at Tufts Cummings School of Veterinary Medicine since 1996, where she is currently a Professor in the Department of Clinical Sciences. Dr. Freeman teaches veterinary students about companion animal nutrition and cares for patients that require specialized nutrition for acute and chronic diseases.



**Cailin R. Heinze, VMD, MS, DACVN** earned her VMD degree from the University of Pennsylvania School of Veterinary Medicine. After veterinary school, she worked in private practice for three years before pursuing a residency in clinical nutrition at the University of California, Davis. While at Davis, Dr. Heinze earned a Master's degree in Nutritional Biology. She is currently an Assistant Professor of Nutrition at Tufts Cummings School of Veterinary Medicine. Her professional interests include canine and feline obesity, nutritional management of renal disease, long-chain fatty acids, and cancer nutrition.

# DECIPHERING FACT FROM FICTION

Number 7, December 2013

## Evaluating a Pet Food Ingredient List

Is the ingredient list the first thing you look at on a pet food label? If it is, then you are not alone! Over half of pet owners surveyed say that the ingredients are the most important factor in choosing a pet food.<sup>1,2</sup>

**FACT** Contrary to popular belief, the ingredient list actually tells very little about the nutritional value of the food and may be used primarily to appeal to consumers.

Pets require nutrients, not ingredients; a diet full of great-sounding ingredients can be less nutritious than a diet containing ingredients that, at least to us, sound less appealing. A pet diet made of chicken breast, peas, and white potato may sound like something we would eat, but that doesn't make it healthier or higher quality than a diet containing pork liver, corn flour, and fish meal. There can also be a big difference in quality and nutrition between two diets that have very similar ingredients — not all chicken is of the same quality.



With today's ever-expanding pet food market, some manufacturers use ingredient lists to increase the appeal of the diet to us, the pet owners who purchase the food. These diets may be full of ingredients — blueberries, cranberries, smoked salmon, celery, honey, parsley, kelp — that sound healthy, but may have unproven benefits for pets or may be present in minuscule amounts and provide little to the diet but added expense. **Having more ingredients means the need for more quality control (and more time and expense) to ensure that the finished product adheres to the desired nutrient formulation** and avoids unsafe levels of contaminants (e.g. some kelp sources have high levels of arsenic). Unfortunately, this degree of quality control is not always practiced.

## INGREDIENT LIST ORGANIZATION

Although the ingredient list should not be used to determine the quality of the food, it can be used to roughly judge the relative amounts of an ingredient in a food compared to other ingredients (but not to the amounts in other products). To do this, it's important to know the regulations on how the label's ingredient list is made. In the United States, these guidelines are established by the Association of American Feed Control Officials (AAFCO) and individual state regulations.



According to AAFCO, ingredients must be listed in descending order of weight (including water weight). Therefore, ingredients that appear at the top of an ingredient list — typically the main proteins, carbohydrates, and fat sources — are present in higher amounts by weight in the food than items at the bottom, such as vitamin and mineral supplements, flavoring agents, and preservatives for dry foods.

Because water is included in the weight of the ingredients, ingredients with high water content (like meats and vegetables) are going to be listed higher than similar amounts of dry ingredients even though they may contribute fewer nutrients to the overall diet.

So, just because chicken or lamb or duck is the first ingredient doesn't mean that food has more of that meat than one that has chicken meal or lamb meal a little farther down on the list. Likewise, canned diets will nearly

always include water or broth as their first ingredient as they are 70–80% water by definition. It is very difficult to estimate how much of an ingredient is actually in a diet other than to assume that the first few ingredients are in the highest amounts.

In addition to guidelines on the order of ingredients in the ingredient list, AAFCO also provides regulatory definitions that must be adhered to by manufacturers for almost all pet food ingredients. These definitions describe what that ingredient can and cannot include and also what it is named.

---

**It is not uncommon to find inappropriate definitions of ingredients on websites, in magazine articles, books, and even marketing information for some pet foods.**

---

As an example, the AAFCO definition of meat by-product allows this ingredient to include organs and bone but not intestinal contents, hair, horns, teeth, or hooves. Despite being clearly defined, a quick internet search will find multiple websites falsely stating that meat by-product contains hooves, horn, and feces — all things that are expressly prohibited in the definition. This practice is very deceptive as it may influence consumers to think that certain ingredients are “bad” based on incorrect information. **Consumers should avoid manufacturers that propagate inaccurate ingredient definitions.** For more information on effective use of nutrition information on the Internet, see “The Savvy Cat Owner’s Guide to Nutrition on the Internet” and “The Savvy Dog Owner’s Guide to Nutrition on the Internet” (both available at <http://www.wsava.org/nutrition-toolkit>).



**Chicken is approximately 70% moisture, while chicken meal is less than 10% moisture, so chicken will be much higher on the ingredient list than chicken meal, even if both ingredients are providing the same amount of actual chicken.**

## CURRENT TRENDS

A number of current pet food trends can be seen reflected in the ingredient lists of today's pet foods. One previously mentioned trend is to include healthful-sounding ingredients such as fruits and vegetables in pet foods, but often they are present in such small amounts that they are unlikely to provide much nutritional value. A good rule of thumb is that any whole food ingredient (such as blueberries, eggs, artichokes, or tomatoes) that is listed below a vitamin or mineral supplement in the ingredient list is unlikely to be present in nutritionally significant amounts.

Another recent trend is to include more and more exotic and previously uncommon ingredients in pet foods, such as bison, venison, rabbit, quinoa, and lentils. These ingredients were rarely used in pet foods in the United States in the past and thus represented novel (new) ingredients for most pets that could be used to diagnose food allergies. With their more widespread use in over-the-counter pet foods, these ingredients are often no longer novel for many animals, and, as such, it is becoming more difficult to both diagnose and treat the small number of pets with food allergies.

**FACT** Marketing pet foods as containing “human-grade ingredients” is becoming commonplace. While appealing to many pet owners, it is important to be aware that the term “human grade” has no legal definition and is used primarily for marketing purposes.

Foods, typically meats, are labeled either as “edible” or “inedible, not for human consumption.” Once a food leaves the human food chain, even if it is of outstanding quality, it has to be labeled “inedible, not for human consumption.” Therefore, meats used in pet food must be labeled as “inedible,” regardless of the source or quality of the meat. The only way to make a pet food with ingredients deemed “edible” is to never let the meat leave the human food chain and actually manufacture the pet food in a human food facility and transport it using human food trucks. Therefore, advertising a product as containing “human-grade ingredients” is untrue if it is not manufactured in a human food facility. However, just because a pet food isn't marketed as being “human grade” does not mean that the ingredients are poor quality.

---

**The quality of ingredients used in pet foods as well as the overall quality of the pet food is much more related to the manufacturer and the standards and protocols they have for assessing raw ingredients, their processing steps, and testing of the finished product, than whether the ingredients are marketed as “human grade.”**

---

In summary, the ingredient list on pet foods serves both a regulatory and marketing purpose but is not a good way to assess the quality or nutritional adequacy of a pet food. Understanding how the ingredient list is organized and used by the manufacturers can help pet owners and veterinarians to make better decisions about pet foods.



## TAKE-HOME POINTS

- 1 The ingredient list is not a good way to select a pet food because it doesn't provide pet owners with information about the quality of the ingredients or the nutritional adequacy of the overall diet.
- 2 Instead of concentrating on ingredients, pet owners and veterinarians should look at the AAFCO nutritional adequacy statement and the quality control protocols of the manufacturer. For more information, see the World Small Animal Veterinary Association's brochure "Selecting the Best Food for your Pet" available at [www.wsava.org/nutrition-toolkit](http://www.wsava.org/nutrition-toolkit).
- 3 The ingredient list may be arranged to make foods as appealing as possible to consumers by the order of the ingredients (eg, having lamb first on the ingredient list) or inclusion of seemingly desirable ingredients in the diet, but often in such small amounts that they have little or no nutritional benefits (eg, artichokes and raspberries listed after the vitamin and mineral supplements).
- 4 Having more ingredients does not make a diet more nutritious.
- 5 The term "human grade" has no legal definition and, therefore, is not regulated.



## REFERENCES

1. Hutchinson D, Freeman L, Schreiner K (2011). Survey of opinions about nutritional requirements of senior dogs and analysis of nutrient profiles of commercially available diets for senior dogs. *International Journal of Applied Research in Veterinary Medicine*, 9(1), 68-79.

2. Freeman L, Janecko N, Weese J (2013). Nutritional and microbial analysis of bully sticks and survey of opinions about pet treats. *Can Vet J*, 54(1), 50-54.

**Sponsored through a P&G Pet Care educational grant to provide educational information from leading experts on nutrition to pet owners. For more information on P&G Pet Care, visit [PGpetwellness.com](http://PGpetwellness.com), [lams.com](http://lams.com), [Eukanuba.com](http://Eukanuba.com), [Naturapet.com](http://Naturapet.com).**