

What the Science Says About Human-Grade Food for Pets

How exactly do human-grade ingredients differ from the feed-grade ingredients found in most commercial dog and cat foods? Does human-grade food offer greater health benefits? Here's how to recognize human-grade pet food, even though you won't see the words printed on most labels.

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STORY AT-A-GLANCE

- There is currently a study underway to evaluate the digestibility of human-grade food for dogs; results so far indicate these diets are both highly palatable and highly digestible
- Consumers are increasingly looking for human-grade diets for their pets; at this time, relatively small pet food manufacturers are where you'll find formulas containing human-grade ingredients
- Prior research indicates that raw and lightly cooked dog food is more digestible than extruded diets
- Other studies show that raw fed dogs have healthier gut microbiomes than dogs fed kibble

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Recently I've seen a rash of intriguing headlines about a study on the digestibility of human-grade dog food, such as this one from PetfoodIndustry.com:

"Dogs readily digest human-grade ingredients in food. A new study from the University of Illinois shows these diets are not only highly palatable, they are more digestible than originally estimated."¹

And also this one from the University of Illinois (where the study was conducted):

"First study on human-grade dog food says whole, fresh food is highly digestible."²

Needless to say, as a huge proponent of human-grade (vs. feed grade) food for pets, I was excited to learn more about this research. Unfortunately, once I dug into the details, it became clear that for some unknown reason, the study involved not dogs, but surgically altered roosters whose ceca had been removed "to avoid the confounding effects of gut microbial activity."

This added tidbit of information renders the PetfoodIndustry.com headline flat out wrong. The second headline is simply misleading, in that one would naturally assume a study of the digestibility of dog food would involve actual dogs doing the digesting.

Needless to say, the study has drawn plenty of criticism. On the upside, however, the same researchers are reportedly "currently testing the diets [used in the rooster study], along with similar diets from other companies, in dogs." So, I'll set my initial enthusiasm aside for now and wait for more information on the follow-up study.

What 'Human-Grade' Dog Food Means and Where to Find It

The term human-grade in pet food means the finished product is made from ingredients legally suitable and approved as nourishment for humans. The quality of the food is "human edible." Feed grade, which is more or less the opposite of human-grade, is finished product made with raw materials that are unsuitable for human consumption ("inedible"). It can only be legally fed to animals (other than humans).

These terms reflect the quality of raw materials used in pet food. Foodstuffs that fail inspection for the human food chain become regular "pet food." Feed-grade ingredients are essentially waste products of the human food industry. The bulk of these ingredients are rendered by-products derived from:

- Meats that failed inspection from slaughtering and processing plants
- Dead animals from farms, ranches, feedlots, marketing barns, animal shelters, and other facilities
- Fats, grease, and other food waste from restaurants and stores

Human foods are much more rigorously regulated than foods made for animals. Unlike the loosely controlled pet food industry, the FDA and USDA regulate human foods and conduct frequent, detailed inspections of the manufacturing facilities that produce food for people.

Then we have an "in between" zone, where many transparent pet food companies using all human-grade ingredients are found. They don't have manufacturing plants that have been inspected or licensed for producing human-grade food, but still use all human-grade ingredients.

This means these companies can't make the "human grade" claim, even though they're using all excellent quality ingredients. These pet foods and treats are still stellar, in my opinion.

Only pet foods made in human-grade facilities, subject to the inspections and approval necessary to have human-grade status, can be legally considered 100% human-grade. Few pet food companies can meet these criteria. Per the Association of American Feed Control Officials (AAFCO):

"A claim that something is "human-grade" or "human-quality" implies that the article being referred to is "edible" for people in legally defined terms. The terms "human-grade" or "human quality" have no legal definition. When one or more human edible ingredients are mixed with one or more nonhuman edible ingredients, the edible ingredients become nonhuman edible.

To claim that a product composed of USDA inspected and passed chicken, plus poultry meal, which is not human edible, plus other ingredients is made with human-grade chicken is misleading without additional qualification and disclaimers in the claim because the chicken is no longer edible.

Thus, for all practical purposes, the term "human-grade" represents the product to be human edible. For a product to be human edible, all ingredients in the product must be human edible and the product must be manufactured, packed and held in accordance with federal regulations in 21 CFR 110, Current Good Manufacturing Practice in Manufacturing, Packing, or Holding Human Food.

If these conditions exist, then human-grade claims may be made. If these conditions do not exist, then making an unqualified claim about ingredients being human-grade misbrands the product."³

AAFCO's official reason for not allowing use of the terms "human-grade" and "human quality" on pet food packaging is because people might mistakenly or deliberately eat the food themselves.

But I and the rest of the small pet food manufacturers who use only human-grade ingredients wonder if it doesn't have more to do with pressure from pet food industry giants who don't want smaller operations to have a competitive advantage. After all, the top pet food manufacturers in the world do not have a single pet food made with human edible ingredients.

Whatever the reason for AAFCO labeling restrictions, relatively small pet food manufacturers are where you'll find formulas containing human-grade ingredients. You must also remember that all **AAFCO ingredient definitions are owned by AAFCO** and not what the general public views as 'regular food' definitions.

Lightly Cooked and Raw Dog Food Is More Digestible

In 2017, another team of University of Illinois researchers (which included Kelly Swanson, a professor of animal and nutritional sciences who was also involved in the rooster research), published a study that looked at how different types of diets affect the microbiome of dogs.⁴ While this study didn't involve human-grade dog food, it did look at lightly cooked and raw diets vs. kibble.

The objective of the 28-day study was to determine fecal microbiota and metabolite concentrations in 8 adult dogs fed 4 different diets that included 2 lightly cooked diets from Freshpet, a raw Freshpet diet, and an extruded diet (Purina Dog Chow).

The study results showed there are indeed differences in gut bacteria depending on what diet dogs are fed. In fact, Swanson told PetfoodIndustry.com that the food dogs eat has a significant effect on the types of microorganisms found in their digestive tracts.

"The quality and chemical composition of the ingredients and nutrient digestibility are key factors," Kelly said. "That is an important factor in our study because the ingredient list, chemical composition (nutrient profile), and nutrient digestibility was quite different among diets. The mildly cooked and raw diets were generally higher in protein and/or fat and were more digestible than the extruded diet."⁵

Based on Swanson's statement, it seems the lightly cooked and raw diets performed as I would expect them to, in that they were easier for the dogs to digest than the highly processed extruded diet. In addition, Tim Wall writing for PetfoodIndustry.com made this observation:

*"... despite having a higher fat content than extruded dog food, both lightly cooked and raw diets seemed to reduce blood triglyceride concentration, which would be considered beneficial long term. The biological reason for this is unknown."*⁶

My guess is the lightly cooked and raw diets are simply more biologically appropriate (and therefore less metabolically stressful) than the Purina Dog Chow (one of the lowest quality, ultraprocessed kibbles on the market), thus the decrease in the dogs' blood triglyceride values. Healthy fat is often vilified as being bad for health, when (as this study demonstrated) adding healthy, unadulterated fat actually improves cognitive wellbeing and overall health.

A few years ago, I had the pleasure of visiting Dr. Anna Hielm-Björkman, a professor at the University of Helsinki in Finland, who is also studying dog metabolomics. The DOGRISK program, conducted at the school, is involved in several innovative research programs evaluating the effects of different types of dog foods on canine health.

Björkman's findings support what Swanson found in this study — raw food is less metabolically stressful than kibble, and raw fed dogs have lower levels of inflammatory and disease markers compared to kibble fed dogs.

Raw Fed Dogs Have Healthier Guts Than Kibble Fed Dogs

Other research on how diet impacts the canine gut microbiome has provided better insight into the benefits of feeding species-specific diets to dogs. For example, an Italian study published recently compared the influence of a raw meat and vegetable diet vs. an extruded diet in 8 healthy Boxers.

The study authors concluded that feeding a raw diet "... promoted a more balanced growth of bacterial communities and a positive change in the readouts of healthy gut functions in comparison to [an extruded] diet."⁷

In another study in New Zealand of 15 adult dogs, the researchers discovered that the dogs fed a raw red meat diet showed higher levels of digestibility of protein and energy than dogs fed kibble. They also produced less poop with lower levels of fecal volatile fatty acids.⁸ As for gut bacteria, the study authors noted that:

"Diet significantly affected 27 microbial families and 53 genera in the faeces. In particular, the abundances of Bacteriodes, Prevotella, Peptostreptococcus and Faecalibacterium were lower in dogs fed the meat diet, whereas Fusobacterium, Lactobacillus and Clostridium were all more abundant."

The shift in the microbiota correlates to protein and fat digestibility in the dogs. This comports with the conversation I had with microbiome specialist Dr. Holly Ganz about raw verses ultraprocessed diets and gut health. By understanding the relationship between a dog's microbiome and digestibility of the food consumed, we gain insight into the influence of diet on the overall well-being of pets.

Sources and References

¹ [PetfoodIndustry.com, January 15, 2020](https://www.petfoodindustry.com/articles/15010-pet-food-industry-2020)

² [Illinois Aces Press Release, December 17, 2019](https://www.illinoisaces.edu/news/2019/12/17/illinois-aces-press-release-december-17-2019)

³ [AAFCO.org](https://www.aafero.org)

⁴ [Fecal microbiota and metabolites of adult dogs fed extruded, mildly cooked, and raw diets, Journal of Animal Science, Volume 95, Issue suppl 4](https://doi.org/10.1093/jas/skz004)

⁵ [PetfoodIndustry.com, August 29, 2017](https://www.petfoodindustry.com/articles/15010-pet-food-industry-2017)

⁶ [PetfoodIndustry.com, August 29, 2019](https://www.petfoodindustry.com/articles/15010-pet-food-industry-2019)

⁷ [Raw meat based diet influences faecal microbiome and end products of fermentation in healthy dogs. BMC Vet Res 13, 65 \(2016\)](https://doi.org/10.1186/s12916-016-0650-4)

⁸ Key bacterial families (Clostridiaceae, Erysipelotrichaceae and Bacteroidaceae) are related to the digestion of protein and energy in dogs.
