

About the Author



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Involved with dogs and dog related activities for over 25 years, Sabine is very interested in natural, preventive dog care as well as canine nutrition and

has accumulated experience in these fields through thousands of hours of independent and academic study.

After completing coursework in Animal Nutrition, Care, Physiology, Diseases and Parasitology, Sabine earned her certification in Animal Care from the University of Guelph, Ontario, Canada.

Her specific research of commercial pet foods began in early 2001 and she soon found herself answering questions from many pet owners, which inspired her to create the Dog Food Project website. An expanding volume required moving locations several times, but since March 2006 it resides on its own, permanent domain at www.DogFoodProject.com.

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Dog Food

A Short Guide to Choosing Better Products

The Pet food industry is a very competitive multi-billion business, and the manufacturers of most popular brands spend millions on advertising alone every year, trying to convince consumers that they are offering the best, most nutritious product.

Of course they all claim that they use only the best quality ingredients, but there is no legal requirement that such statements must be truthful. It's your responsibility as a pet owner to look past the pretty pictures of fresh cuts of meat and juicy vegetables, the cute commercials and the misleading, biased information about "proper nutrition" and to question the statements these companies makes.

Choosing a quality product is not always simple and often you will have to decide whether a specific ingredient is still acceptable for you or not. If your dog doesn't show sensitivities to things like e.g. wheat, corn, beef, or brewer's yeast and they are of good quality (USDA inspected or antibiotic and steroid free etc.), they are not "bad" and you have absolutely no reason to feel guilty if a food contains them! There are countless examples for ingredients that have an undeserved bad reputation due to people's half-knowledge that finds the internet as a prolific breeding environment.

Many of the ingredients and additives in commercial dog foods are the source of health problems in our pets. Brands available at grocery stores or mass retailers are generally based on cheap byproducts of the human food industry,

with artificial colorings and flavorings, and contain ingredients our pets were never meant to eat. Did you know that many of the ingredients of even highly advertised "brand-name" dog foods are nothing but "floor sweepings" and the "tail of the mill" from grain processing plants, rendered remains of (often diseased) animals and roadkill and recycled restaurant grease from rendering facilities, all cleverly disguised in non-descriptive phrases like "meat meal", "cereal food fines", "meat and bone meal" or "animal fat"?

Fortunately there are also really good quality products available, and they don't necessarily cost more to feed, as you can easily calculate if you look past the price tag on the bag and instead take the daily feeding amount into consideration.

This little pamphlet was created to get you started on learning how to choose better products and provide a healthier diet for your four-legged best friend. It is only a small part of the vast amount of important information about commercial dog food, but hopefully it will spark your interest in finding out more. Let's get started!

Sincerely yours,

Sabine Contreras

Sabine Contreras
Canine Care & Nutrition Consultant

1. Identifying better products

Step One - Determine the main ingredients of the food

Contrary to popular belief, it's not always the "first five" or "first seven" ingredients listed that make up the major portion of a product. The number of main ingredients actually depends on the specific formulation of a food and the degree of variety included, so one brand may have only three or four main ingredients, while another could have eight or ten.

What you need to look for is the first source of fat or oil that appears in the ingredient list. This can either be from an animal or vegetable source, there are good and bad ones of both, but more details on that later. Anything listed before that first source of fat, and including it, are the main ingredients of the food. Any other items are present in much smaller amounts to add flavor, function as preservatives, help with the manufacturing process or provide dietary benefits (e.g. probiotics, vitamins and minerals).

Step Two - Evaluate the quality of the ingredients and the amounts used

Sadly, this is easier said than done, due to the ambiguous names of many ingredients. As a consumer you have no way of knowing how much of an ingredient is really in a food, or whether a manufacturer uses a good or poor quality ingredient that is available in different grades - AAFCO (Association of American Feed Control Officials - the regulating body for the feed industry) does not permit statements in regards to quality on ingredient labels. You will have to do your homework and determine which manufacturers you trust. We will take a look at the different ingredient groups in chapter 2.

Step Three - Required reading

- Manufacturer's websites, brochures, pamphlets - read it all and if you have questions, don't be afraid to contact them and ask. Does the provided information include facts you can verify by consulting independent sources?
- Talk to company representatives at dog shows or other venues. How well prepared are they to answer specific questions?
- Does the company make outrageous claims without backing them up? Compare how the quality of the ingredients used in their products matches up with any statement they make about proper nutrition.
- If a manufacturer boasts about "awards" and "winning taste test results", do they reference the exact criteria products had to meet and who conducted the evaluations?
- If a manufacturer compares a product to those of competitors, are the comparisons truthful or is the main tactic making the competitor look bad without explaining why their product is of superior quality? Of course everyone is trying to present their own food in the best light, but if pointing out weaknesses in other products is all they can do, their own can't be that much better. Make the effort to examine all products in a comparison table provided by a given manufacturer, often they do not represent competitor products truthfully. Consider the use of catchphrases and marketing gimmicks in TV commercials and advertising campaigns.
- How difficult is it to locate relevant product information like ingredients, guaranteed analysis, caloric content etc. (on the manufacturer's website or otherwise)? Is it readily available or buried in various articles that do not directly relate to the product(s)?

Step Four - Do your own feeding trial

The "best" food will not do if your dog either can't tolerate it or won't eat it. Don't be afraid to select more than one brand and see how they work out for your dog. Give it enough time though, it takes 4-6 weeks at the very least to see results. Unless symptoms of intolerance surface, 3-4 months are a more reasonable time frame.

The manufacturers of most high quality foods will be happy to send you free samples of their products so you can find out if your dog even likes the taste of a particular food.

■ It is important to understand that supplements like glucosamine, chondroitin and probiotics are generally not included in large enough doses to actually provide a therapeutic effect for particular health conditions in the daily feeding amount. Their presence may reduce the amount you have to include of a separate supplement, but it is not necessarily a good idea to choose a food based just on its presence or absence. A different food combined with a proper dosage of a specific supplement product may bring better results.

What to look for:

- ▶ Chelated or sequestered minerals (also labeled as chelates, proteinates, amino acid chelates or complexes, polysaccharide complexes).
- ▶ Nonacidic, time released versions of Vitamin C (labeled as Ester C, Calcium Ascorbate, Stabilized Vitamin C or L-Ascorbyl-2-Polyphosphate), natural Vitamin E (Tocopherol, Natural Tocopherol) and natural sources of Vitamin K (egg yolk, liver, oats, kelp, alfalfa).

What to avoid:

- ▶ Menadione in any form (also listed as vitamin K3 or "vitamin K supplement", please refer to www.dogfoodproject.com/menadione to learn about this harmful version of synthetic vitamin K), Yeast Culture
- ▶ Harmless but poorly absorbed: most sulfate and oxide based mineral supplements (e.g. zinc oxide, iron oxide)

3. In closing, a few "bad examples"

▶ Claim: "Double Helpings of Chicken and Rice"

Actual ingredient list, obviously lacking any quality chicken meat:

Ground Whole Corn, Meat and Bone Meal, Chicken By-Product Meal, Corn Gluten Meal, Rice, Animal Fat (preserved with BHA/BHT), Natural Poultry Flavor, Dried Beet Pulp, Wheat Flour, Salt, Potassium Chloride, Wheat Mill Run, Carmel Color, Vegetable Oil, Wheat Gluten, Vitamins, Minerals, Added FD&C and Lake Colors (Yellow 6, Blue 2, Red 40, Yellow 5).

▶ Claim: "Made with real chicken, a high quality protein source, made with healthy real vegetables that dogs love, no artificial flavors or fillers"

Actual ingredient list: (no word about the inclusion of no less than 4 artificial colors...)

Ground Whole Corn, Meat and Bone Meal, Corn Gluten Meal, Chicken By-product Meal, Animal Fat (preserved with BHA/BHT), Natural Poultry Flavor, Wheat Flour, Chicken, Rice, Dried Whole Peas, Wheat Mill Run, Dried Beet Pulp, Wheat Gluten, Salt, Carrot Powder, Potassium Chloride, Vegetable Oil (Source of Linoleic Acid), Carmel Color, Vitamins, Minerals, Added FD&C and Lake Colors (Yellow 6, Blue 2, Red 40, Yellow 5).

▶ Claim: "Moist, chewy chunks made with real beef, Contains vegetables"

Actual ingredient list:

Ground yellow corn, chicken by-product meal, corn gluten meal, whole wheat flour, beef tallow preserved with mixed-tocopherols, rice flour, beef, soy flour, sugar, sorbitol, tricalcium phosphate, water, animal digest, salt, phosphoric acid, potassium chloride, dicalcium phosphate, sorbic acid), L-Lysine monohydrochloride, dried peas, dried carrots, calcium carbonate, calcium propionate (a preservative), choline chloride, vitamin supplements, added color (Yellow 5, Red 40, Yellow 6, Blue 2), DL-Methionine, zinc sulfate, glyceryl monostearate, ferrous sulfate, niacin, manganese sulfate, calcium pantothenate, riboflavin supplement, biotin, thiamine mononitrate, garlic oil, copper sulfate, pyridoxine hydrochloride, folic acid, menadione sodium bisulfite complex, calcium iodate, sodium selenite

▶ Claim: "Delivers real beef, real garden vegetables and wholesome grains for the health and happiness of your dog"

Actual ingredient list:

Brewers Rice, Ground Whole Grain Wheat, Chicken Meal, Corn Gluten Meal, Soybean Meal, Animal Fat (preserved with mixed tocopherols and citric acid), Beef, Peas, Carrots, Soybean Oil, Chicken Liver Flavor, Dried Beet Pulp, Iron Oxide, Flaxseed, Dried Egg Product, Iodized Salt, L-Lysine, Potassium Chloride, Choline Chloride, vitamins, Vitamin E Supplement, Dicalcium Phosphate, Calcium Carbonate, Minerals, preserved with Mixed Tocopherols and Citric Acid, L-Tryptophan, Beta-Carotene, Rosemary Extract

Preservatives

Quality products are preserved naturally, but sadly there is almost always a possibility of products containing hidden preservatives and additives, since manufacturers only have to declare ingredients on the label that they have added themselves. If they purchase for example fish oil and meal, fats or other prepared ingredients from suppliers with stabilizers and other additives already added, these do not have to be listed.

■ The higher the ingredient quality, the less effort must be made to delay further degradation of the product, making natural antioxidants like rosemary extract and vitamin E very effective. Any chemical preservative should not be trusted, some of them are even banned from human consumption in some countries outside of the U.S. due to their questionable side effects.

What to look for:

► Mixed Tocopherols (Vitamin E), Rosemary-, Sage-, or Clove Extract, Ascorbyl Palmitate, Ascorbic Acid and other forms of Vitamin C

What to avoid:

► BHA (Butylated Hydroxyanisole), BHT (Butylated Hydroxytoluene), TBHQ, Ethoxyquin, Sodium Metabisulphite

Sweeteners

Sweeteners have no place in food products that are consumed daily. Sweeteners are generally only added to poor quality foods to make them more attractive, since otherwise dogs would simply refuse to eat them. Many dogs get addicted to sweeteners, which can cause or aggravate health problems, including ear infections and diabetes.

■ Blackstrap Molasses is not very sweet, a source of many trace minerals and not the same as Cane Molasses. It is harmless as a supplement in small amounts.

■ While any sweeteners should be avoided in food that a dog eats on a daily basis, small amounts of unrefined sugar, such as honey or molasses, are okay in dog treats.

What to avoid:

► Cane molasses, corn syrup in any form, sugar, sorbitol, sucrose, fructose, glucose, ammoniated glycyrrhizin, propylene glycol

Dyes

Dyes are another unnecessary ingredient in dog food, since dogs do not care about the color of their food. This is strictly aimed at making products look more appealing to humans, for example by hiding the grey color of poor quality rendered products or visible variations in ingredients, or attempting to make a food look like it contains more meat by adding red dye.

What to avoid:

► Blue 2, Red 40, Yellow 5 and 6, other "numbered" dyes.

Supplements

All dog foods are required to meet certain nutritional standards, so manufacturers must add certain minimum amounts of vitamins and minerals. Like any other ingredients, these can vary in quality and in how well the body can absorb them. Any other supplements are not a "must" but some of them add considerable health benefits. Certain nutrients are lost or altered during processing, but manufacturers of quality foods take great care to add them back into their product after it has cooled down sufficiently. Do not hesitate to ask if you can't locate the information on the bag, in a brochure or on the internet or have additional questions. Trustworthy companies will gladly inform you about their procedures.

2. Ingredient groups—what to look for and what to avoid

Protein

Protein, in the form of quality meat ingredients, is the most important component of a dog's diet. As animals with a carnivorous background, their digestive tract is designed to utilize primarily meat and fat. It is also the most expensive ingredient for a manufacturer to buy and the profit margin on a product is drastically affected by the amount and quality used. Ideally, the first ingredient of a food should be either a specified meat meal, or a specified fresh meat type followed by a meal. If your individual dog's specific needs limit you to using foods that do not include a concentrated source of meat in meal form, I highly recommend supplementing with fresh or canned meats on a daily basis.

■ Generically named sources of protein or fat (animal ____, meat ____, poultry ____, etc.) are never present in truly high quality products because they are derived from highly questionable sources. If a manufacturer uses quality ingredients and has nothing to hide, there is no need for generic names.

■ Byproducts of any type are less desirable and only acceptable if they do not make up the main source of animal protein and if the name of the species used is also defined in some manner (e.g. "chicken byproducts" or "beef byproducts" but not "meat byproducts" or "poultry byproducts"). Byproducts consist of anything but the quality cuts of meat and highest quality edible offal used for human consumption. What this means (on a market with high demand for human snacks like "buffalo wings" and cheaper pet foods requiring flavoring agents like beef or chicken liver digest to make otherwise uninteresting food more attractive), I leave to your imagination.

■ Contrary to what many people believe, meat sources in "meal" form (as long as they are from a specified type of animal, such as chicken meal, lamb meal, salmon meal etc.) are not inferior to whole, fresh meats. Meals consist of meat and skin, with or without the bones, but exclusive of feathers/hair, heads, feet, horns, entrails etc. and have the proper calcium/phosphorus ratio required for a balanced diet. They have had most of the moisture removed, but meats in their original, "wet" form still contain up to 75% water. Once the food reaches its final moisture content of about 9-12%, the meat will have shrunk to as little as 1/4 of the original amount, while the already dehydrated meal form remains the same and you get more concentrated protein per pound of finished product. This means that in the worst case you are left with only 4 ounces of actual meat content per pound of fresh meat included in a dry kibble, many of which contain less than one pound of meat per 2-3 pounds of grain to begin with.

What to look for:

► Specifically named meats and meat meals such as chicken, chicken meal, turkey, turkey meal, lamb, lamb meal, duck, duck meal, beef, beef meal, eggs and so on.

► The following are lesser quality ingredients and are not found in truly high quality products, but may be present in smaller amounts (not as the main protein ingredients) in "mid range" foods: fresh byproducts indicating a specific species (e.g. beef/chicken/turkey/lamb byproducts), corn gluten, corn gluten meal

Products that include these as main ingredients should be avoided:

What to avoid:

► All generic meat ingredients that do not indicate a species (meat, meat byproducts, meat byproduct meal, meat meal, meat & bone meal, blood meal, fish, fish meal, poultry, poultry byproducts, poultry meal, poultry byproduct meal, liver, liver meal, glandular meal etc.)

► Byproduct meals, even if a species is identified (chicken/beef/turkey/lamb byproduct meal etc.), since highly questionable ingredients may be used in these rendered products.

► Any food that contains corn (ground or otherwise) as a first ingredient, especially if corn gluten meal is also a main ingredient and no concentrated source of identified meat protein (e.g. chicken meal, lamb meal etc.) is present.

► Corn gluten or soy(bean) meal as main ingredients. **Note:** Not all dogs tolerate soy products! Small amounts, especially of organic soy, are okay as long as a dog is not sensitive. There are only very few products on the market that include high quality soy ingredients, none of them sold at grocery stores or mass retailers.

Fats and Oils

Dogs need a certain amount of fats and oils in their diet, mostly for skin and coat health, but also for proper brain development and other critical processes in the body - and in this regard some are more valuable than others. As food ingredients they should be specifically named and of high nutritional value. Beef tallow and lard make foods highly attractive to dogs and are not harmful, but they are high in saturated fat and low in valuable fatty acids.

What to look for:

- ▶ Specifically named fats and oils such as chicken fat, herring oil, canola oil, sunflower oil, flax oil etc.
- ▶ High percentages of Omega-6 and Omega-3 fatty acids, but a low ratio of the two. For each percent of Omega-6s at least 0.13% Omega-3s should be present, resulting in a minimum ratio of 7:1. Ratios of 5:1 and lower are preferable. Don't discount a food because of low percentages of essential fatty acids though, you can easily make up for this with a good quality fish oil supplement.

What to avoid:

- ▶ Non-specific sources such as animal fat, poultry fat, vegetable oil, generic fish oil
- ▶ Mineral oil

Carbohydrates

Carbohydrates may originate from grains (rice, wheat, barley, oats, corn etc.) or alternative sources like potatoes, sweet potatoes, tapioca and peas. The claim that all carbohydrates in commercial dog food are nothing but fillers and can not be digested by dogs is incorrect - properly cooked (as in extruded and baked dry foods as well as canned foods) they are highly digestible and valuable sources of energy.

- The tolerance of amounts and types varies, some dogs do better with more carbs in their diet than others, and some do better on grain-free foods with alternative sources.
- For certain health conditions it is beneficial to avoid high-gluten grains like barley, wheat, rye or oats and favor low gluten ones like rice, millet, amaranth, quinoa and sorghum (milo).
- Quality is also important, since grains deemed unfit for human consumption (often contaminated with mold) can legally still be used for animal feed.
- Whole, unprocessed grains (also listed as "ground" or in "meal" form) retain all the nutrients in the bran layer, the original fat content and the endosperm. Grain fragments and flours are incomplete and may have already lost much of their nutritional value during processing and storage. Some manufacturers include one fragment (most commonly brewer's rice) to lower product cost, which is acceptable if whole grains are also present. Be wary of products that consist mainly of fragments and flours. Flours are highly refined and while not harmful, contain less valuable nutrients and more refined carbohydrates than whole ground grains.
- Be careful of "splitting" of ingredients, such as for example rice, rice flour and rice bran all appearing separately. Added together they would appear much higher on the ingredient list.

What to look for:

- ▶ Whole ground grains such as rice, oats, barley, millet etc., potatoes, sweet potatoes
- ▶ Corn often gets an undeserved bad reputation. While it is not acceptable as a main source of protein in a dog food (as it is used in combination with corn gluten), as a source of carbohydrates it is no better and no worse than other grains. The starch part of corn is highly digestible but the whole ground product has a higher fiber content than other grains (around 7%), which results in slightly larger stools - often incorrectly interpreted as lack of digestibility. Unless an individual dog is intolerant or allergic to corn, there is no need to avoid products which include it in reasonable amounts.

What to avoid:

- ▶ Fragments like potato product, middlings/mids or mill run of any kind
- ▶ Unspecified grain sources like cereal food fines, (distiller's) grain fermentation solubles

Fiber

Fiber is the part of carbohydrates that can not be digested by the dog. Depending on nutritional goals, varying levels of dietary fiber with different properties are necessary to make a highly processed food source like commercial kibble "work", since a dog's digestive tract is not designed to process a diet with such high levels of carbohydrates - most commercial dry foods contain 40-50%, low quality ones even more.

- Depending on the inclusion of ingredients that are naturally high in fiber (e.g. brown rice, oats, certain fruits or vegetables), a food may or may not include specific, isolated types of fiber.
- Beet Pulp, the isolated fibrous material from sugar beets, is another ingredient that has an undeservedly bad reputation. It is a very gentle, beneficial source of fiber that is not only generally very well tolerated, but also has specific properties that make it suitable as a source of nutrition for the beneficial bacteria that reside in the intestinal tract. The sugar is almost completely removed, what is left in the pulp is only about 1/5 the amount of sugar that you would find in a serving of carrots of equal size. It is also colorless and does not turn a dog's coat turn red, like urban legends claim. The argument that beet pulp is an "unnatural" ingredient is often brought up, but people who present this complaint seem to forget that it is also not natural for dogs to eat highly processed commercial products with a carb content of generally 40% and more, and a moisture content of only around 10% as opposed to a more natural 60-70%. Added fiber is required to make such formulations work for the pets who eat a dry diet.

What to avoid:

- ▶ Corn bran, peanut hulls, rice hulls, soybean hulls, oat hulls

Fruits & Vegetables

Fresh, unprocessed fruits and vegetables add vitamins, minerals and various phytonutrients. They are nice ingredients but by no means necessary and mostly only included in insignificant amounts. If a brand of food contains high quality protein, carbohydrate and fat sources but no fruits or vegetables, it's still a better choice than one with less ideal main ingredients that does have a few pieces of blueberries, peas or carrots added to make the ingredient list look more impressive. Sharing some of the fresh, unprocessed fruits and vegetables you eat yourself will add much more nutritional value to your dog's diet - just please do not give onions, grapes or raisins.

What to look for:

- ▶ Fruits and vegetables are a nice touch but should not be a deciding factor in choosing a brand. Unprocessed, fresh items are preferable to already processed ones, and organic is always the best choice.

What to avoid:

- ▶ Apple pomace, grape pomace, citrus pulp

Flavorings

High quality foods do not really need any flavorings, but natural ones are harmless and may even add a little nutritional value.

What to look for:

- ▶ Specific stocks or broths (e.g. chicken, beef), liver of specified animals

What to avoid:

- ▶ Any highly rendered products (e.g. digests of any kind), ingredients of unknown origin ("meat broth"), glandular meal, artificial flavor(ing)
- ▶ Onion of any form is toxic to dogs and thus has no place in dog food!