



How Does Diet Affect Behavior in Dogs?

Picky eaters, excessive barking, loose stools, gassy tummies, mood swings, restless sleep, hot spots, compulsive disorders, reactivity, aggression, hyperactivity, and biting can all be symptoms of a poor diet.

Yet, until recently, the question of whether food can affect a dog's behavior has been a long-debated subject amongst behaviorists and trainers. Fortunately, there is more and more evidence and study to show that what you put into your dog, can and does have an influence on how your dog behaves—just like what you eat can top or topple your own moods.

To avoid nutritional pitfalls, take time to do your homework. Start your research with a close look at nutritional models for humans. This avenue can help you to learn about better food choices that positively influence how humans behave, and as you will see, points to affecting the way your dog behaves as well.

The Child Wisdom website (<http://www.childwisdom.org/dietbehavior>) has great information about how food affects human children. The following is noteworthy since many of the problems revealed here are the same problems routinely mentioned when counseling pet parents about their dog's erratic behaviors: **“Food Sensitivities/Allergies** – Some people get depressed or behave irrationally after they eat (often unknowingly) something to which they are sensitive or allergic. This phenomenon, sometimes called a “brain allergy” has been widely reported and sometimes appears in patients who display mental health symptoms. True classic food allergies involve an antigen-antibody immune response (IgE-mediated) and are relatively rare. About 5% of children and about 2% of adults are reported to have these “true food allergies.” In contrast, food sensitivities, sometimes called food intolerances, are reported by almost 25% of Americans. Usually missed by traditional antibody blood tests, these food sensitivities are most often identified through elimination. (If a symptom

disappears when all sources of a certain food are eliminated from the diet for several days and then reappears when that food is reintroduced, the symptom is likely to be related to sensitivity to that food.) Any food may cause a reaction, but the most commonly reported food sensitivities involve wheat gluten, dairy products, yeast, corn, eggs, soy, grapes, oranges, chocolate and synthetic food additives.”



Looking at human models can offer interesting comparisons; however, watching dogs in their natural habitats is truly reveling. As of late, the behavior community is trying to understand more about the innate behaviors of dogs, including their eating habits: Dogs scavenging in trash cans, dumps and other locations of “plenty” are all very common—not hunting, as was believed for many years. The small amount of hunting these feral dogs do is mostly comprised of catching lizards, small rodents and birds.

Dogs are classified as omnivores, eating both plant matter and meat, but based on field observations, scavengers might be the more fitting description of their dietary practices. It's no wonder that dogs will eat just about anything you put in their bowls! Still, just because most dogs *will eat* whatever you put in their bowl, doesn't necessarily mean it's good for them— or nutritionally sound.

Feeding to behavioral health— what's in your dog's bowl?

As pet parents and providers, it's important to give active thought to what you feed your dog, since different foods will lead to different results – not just medically but behaviorally as well.

According to many veterinarian and behavior experts, we are producing future generations of health and behavior problems for dogs by feeding overly processed, chemical and dye-laden commercial dog foods that appear wonderful to

humans, but often have nutritional deficits and long-term toxic effects.

Part of this problem starts with the companies producing many of the popular name brands of food. In the January, 2003 issue, the Whole Dog Journal made this statement: *“Mostly, the giant companies, corporate cousins to the human food manufacturing industry, serve (partially) to spin figurative gold out of the “straw” leftovers from the human food side. The human food processors use the good parts, and the food fragments that would otherwise be wasted are put to good use in pet foods. The result is a consistent, inexpensive, but not particularly healthy food that is readily available anywhere in the country.”*

To further make the point, consider this: *“The “whole grains” used in many dog foods have had the starch removed and the oil extracted (usually by chemical processing) for vegetable oil; or they are the hulls and other remnants from the milling process. If whole grains are used, they may have been deemed unfit for human consumption because of mold, contaminants, or poor storage practices”* (The Allergy Solution for Dogs, Messonnier, D.V.M., p156)

Another problem is corn. Used as a protein source to save money in many popular foods, corn presents a completely different set of difficulties for dogs suffering from behavior issues, or stress-related problems: *“A common protein source in dog food is corn. Corn, however, is unusually low in tryptophan and represents some risk to animals sensitive to serotonergic under activity.”* (The Canine Aggression Workbook, O’Heare 2000, p215)

Serotonin is what keeps dogs well balanced and helps to control moods, arousal, and sensitivities to pain, sounds and touch. It is also the major component in healthy sleep/awake cycles. An imbalance of serotonin can cause sleep problems which frequently exacerbate behavior problems during times when your dog is awake; thus making training or modification that much more difficult. Many behaviorists now recommend the complete



elimination of corn in the diet because of this problem. It’s always better to start out with an even playing field to ensure that your dog’s diet is not creating any underlying problems that could make living with your dog more difficult.

How does Food Effect Behavior?

Author and behaviorist Bill Campbell (Behavior Problems in Dogs, 3rd Ed., 1999) believes that the high-carbohydrate, (junk carbs, not complex carbs) ingredients found in many commercial dog foods are directly related to problems such as hyperactivity and hypersensitivity to normal stimuli in everyday life. Campbell points to the fact that there has been little study done on dogs in this area, but that there is some pro-carbohydrate information to be found, even though it is a well-known fact that dogs do not need any carbohydrates at all to survive. Campbell discounts the studies by saying, *“We must bear in mind that most of the studies you may have read on this subject, if not all of them, may have been funded by high-carbohydrate diet dog food manufactures”* (Webtrail, April, 1999).

What we do know is how junk carbohydrates and junk food affects humans, and it doesn’t take much of a leap to believe that products affecting our behavior or moods, also affect dog behavior. According to Prevention Magazine, (September 2005; pg. 77), recent studies have linked together higher homicide rates and omega-6-fats. Omega-6-fats are found in corn, safflower, soybean, cottonseed and sunflower oils. Murder rates were 20% higher in countries with the highest intakes of omega-6. It is believed that the “Western diet” may overwhelm omega-3’s which are known for their calming effects.”

Edmund R. Dorosz, BSA, DVM also believes that dog food can cause hyperactivity and unusual behavior patterns in dogs. In a NetPets article, he states: *“We hear of many dogs today being allergic to meat. Beef, pork, lamb, chicken, and other meats are being fingered as the culprits. This is something hard to believe, for a species that has been carnivorous for millions of years to be now allergic to meat. Maybe it’s something in the meat or in the ‘complete and*

balanced' diets that are foreign and new to our dogs that are causing the problem" ("Hereditry and Environment – What Role Does Nutrition Play?" www.netpets.org, 12/14/02).

What to do with this information?

So what's a pet parent to do? The bags of food at pet stores and supermarkets look amazing, and they all claim to meet the nutritional needs for your dog. Many also claim to benefit the maintenance/health of different body types and specific groups such as large-breed puppies, overweight dogs, or senior canines. So which ones are telling the truth, and how do you choose the best possible food for your dog's needs?

The most important data required to understanding dog food is to thoroughly read the labels. Dog food labels are similar to those on human food products: Ingredients are listed in descending order by weight. The first three ingredients make up the bulk of the food, so those are the most important to look at when selecting a dog food brand.

Meat or a specific type of meat meal should always be the first ingredient on the label. Choose a product that identifies the type of meal; such as "chicken meal," or "lamb meal," as opposed to those that say "poultry or meat meal" which can contain just about anything that fits under that title, including road kill and diseased animals, as long as it's a bird in the case of poultry, and any animal (domestic or otherwise) in the case of meat meal.

Falling into the meat meal category was the recent discovery of Phenobarbital (the drug used to euthanize animals) found in a number of commercially sold dog foods, including some popular "brand names." It was suggested that the remains of euthanized domestic animals are rendered into animal feed - the likely source of the Phenobarbital. Phenobarbital is a hearty compound that is able to survive the cooking process, which is why, it was detectable in the tested food. Since there has been a recent uprise in the cat version of "Mad Cow's Disease," this may very well prove to be the case.

As your investigation continues, also look to make sure the first ingredient is not a meat by-product. By-products are not muscle meats, and can include leftover animal components such as lungs, kidneys, brain, spleen, liver, bone, blood, fatty tissue, stomach, and intestines freed of their contents. There are mixed feelings about the use of by-products in dog food, but the fact is, some dogs have trouble digesting these, and according to Ann Martin (Food Pets Die For, pg.2), "Livers can be infested with worms (liver flukes) or diseased with cirrhosis. Lungs can be filled with pneumonia. If an animal is diseased and declared unfit for human consumption, the carcass is acceptable for pet food." Given there are many great foods that don't include by-products, it might be best to shy away from those that do.

The next step in selecting a good food is to look at the type and amounts of grains listed on the label. Grains are usually used to keep production costs down, and while certain grains are beneficial to good health, others are known to cause allergies.

These higher grain contents will also mean you will need to feed more cups of food, since it takes a lot more grain than meat to reach the nutritional levels required to satisfy a dog's needs. For this reason, you can actually end up spending more per cup for many of the "cheap" brands than the high-end foods, not to mention you will have an increase in the amount of bowel movement that could lead to housetraining problems or stress as your dog's need to eliminate increases. If your dog does not have free access to his potty area, he may develop anxiety problems as he tries to "hold it," so as not to have an accident in his crate or the house.

Vomatoxin which is a chemical compound produced by Fusarium molds is another concern. These molds are found in the following grains: Wheat and wheat products, corn and corn products, peanut meal and peanut products (Aflatoxin), soybean meal and hulls, and cottonseed (Aflatoxin.) These mold spores can present a mired of health (including death) and

behavior problems if your dog develops an allergy to them.

In addition, carbohydrates act much like sugar. These high grain-content foods produce excessive energy for about two hours after being ingested by the dog; which is illustrated in the same way athletes “carb up” for an energy boost before they need to perform. The high-carbohydrate dog foods do the same thing to your dog, except most people do not provide their canines with the right combination of mental and physical exercise necessary to work off all that energy. The results of all that energy is often destruction to your home or yard or other behaviors such as rough play and biting.

Behaviorally speaking, everything from housetraining problems to self-mutilation can be linked to poor quality foods, and some of these behaviors directly point to the preservatives, additives and dyes used in kibble. The health considerations of these compounds are plentiful and can lead to a dog displaying his discomfort behaviorally. The chemicals most often associated with cancer and other toxic-driven diseases are the preservatives found in many dog foods. BHA (Butylated hydroxyanisole), BHT (Butylated hydroxytoluene) and Ethoxyquin are all known carcinogens and, by regulation, are disallowed in human food but preserve many dog foods and dog treats. If you see these ingredients listed on the bag, put the bag back on the shelf and keep looking.

It is far better to look for a food that preserves with natural ingredients. Some natural alternatives are composed of topherols (vitamin E), citric or ascorbic acid (vitamin C), or a combination of the two. In addition, look for the bags that have manufactured dates on the bag, as this ensures freshness, since food preserved with products that are more natural will not have as long of a shelf life.

Those foods designed for specific age, weight or body-types also seem like a wonderful idea, but feeding a high-end food eliminates the need to buy these specialty products that are often higher-

priced. These manufactures simply add more supplements (that have been processed and preserved along with the food) in order to make their specialty claims. It is far better to add your own supplements with recommendations from your veterinarian or health-care advisor.

How and when to feed:

When to feed your dog is just as important as what you feed. No longer is the standard once a day feeding used, neither should dogs be free-fed— food left down all day for them to nibble at will— unless there is a medical reason. Just think about how you would feel (and look) if you were only able to eat once every 24 hours, or kept nibbling on a high-calorie food all day long!

The ideal regimen is to feed an adult dog two-three times per day. Glucose levels are greatly affected by food (the same as in humans), so it is important to feed regularly to prevent these levels from becoming erratic as they increase and decrease respectively for those dogs that only eat once a day, or nibbles his food at will without access to expend the on-going energy made available by snacking all day.

As a real bonus for your dog, try feeding in food-carrier toys such as Kongs, or Buster Cubes as a way to provide mental and physical exercise (much like dogs in the wild, working to find their food). These are great for those dogs that like to take their time eating. These “food puzzles” will also help slow down those dogs that “vacuum” their food from the bowl in 30 seconds and then have nothing to look forward to the rest of the day.

In conclusion:

Whether it is dry kibble, canned, raw, freeze-dried, or a combination of these, it is essential to do your homework when choosing food for your dog. Try different brands and find several your dog likes so you can switch around since there is now more evidence that it’s healthier to change between several brands of food rather than feed the same for a dog’s lifetime.

The bottom line is— look at the bottom line—

read the ingredients and feed your dog healthy foods to achieve good mental and physical health for the duration of your dog's life.

Guide to Good Foods:

The Whole Dog Journal (which does not accept any advertising) conducts an annual study of dry dog food brands. They have strict criteria that must be met to be included on the list.

Here are some of the brands that have made the Whole Dog Journal's list of recommended brands for several years running:

California Natural

Canidae

Blue Buffalo

Paul Newman's 2nd Generation

Flint River Ranch Dry Water (Mail Order)

Solid Gold (San Diego based company)

Merrick Pet Care--Cowboy Cookout

Fromm Four Star Nutritionals

By Nature Organics

Nature's Variety

Natural Balance Dry Dog Food

Innova

Raw Instinct (grain free)

Wellness

Wysong

There are also many great raw diets that are conveniently freeze-dried and packaged.

Some of the brands on the Whole Dog Journal's "Not Recommended" list are:

Diamond's Premium

Eukanuba Adult

Iams

Nature's Recipe

Nutro Max

Purina One

Beniful

Science Diet

Pedigree Prime

References:

Dogs, a New Understanding of Canine Origin, Behavior and Evolution, by Ray and Loren Coppinger

Dog Food Comparison Website—what's in your current dog food— www.doberdogs.com

Food Pets Die For, by Ann Martin

Prevention Magazine- www.prevention.com

The Allergy Solution for Dogs, by Messonnier, D.V.M

Whole Dog Journal- www.whole-dog-journal.com for information

Local Contracts for High-End Foods:

www.wellbeings.com for Senior Dogs and Cats

www.theholistichound.net for general nutrition and other supplies

