

COMMERCIAL PET FOODS – MYTHS AND MISPERCEPTIONS

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Walk down any pet food aisle in the grocery store. Walk through any pet super-center. Look around the client waiting area of your clinic. Chances are, there are many different food choices in each place. How do you make the right recommendation to match food to pet?

Among commercial (or homemade) foods, there is no single food that is right for all dogs or all cats. There are usually several appropriate choices for each animal, but there also are several inappropriate choices, even among good quality foods. The main characteristics to consider when attempting to match food to individual animal include: quality and nutritional characteristics of the food; individual nutritional needs of the pet; and needs of the client or those derived from husbandry and care practices.

Why Commercial pet foods?

There are thousands of commercial pet foods sold in the United States alone. However, the vast majority of pet dogs and cats consume foods made by a dozen or so manufacturers. While consumers may use commercial pet foods, in part, because of the convenience and relatively low cost, they also want good nutrition for their pets. The large pet food manufacturers spend millions of dollars conducting research to learn ever better ways to define and deliver nutritionally balanced products for pets. Millions of pounds of commercial pet foods are consumed each year by pets that live long, healthy lives. According to several surveys, the average lifespans of pet dogs and cats have grown longer over time, in association with better care and better nutrition provided by commercial pet foods.

While only minimal data to support a direct health benefit of commercial foods compared to homemade diets has been published, at least one study showed a significant beneficial effect (Rahman SA. *Compendium* 2000;22(Suppl 9A):97). In that one-year study of 1229 dogs, gastrointestinal, renal, dermatologic and developmental disease incidences were reduced in dogs fed the commercial pet foods compared to those fed homemade diets. In addition, among reproducing females, the percentage of puppies surviving until weaning was increased.

Despite the apparent benefits of commercial pet foods, many individuals have concerns about commercial foods. Some of these concerns lead pet owners to consider homemade diets. Veterinarians should be aware of these concerns, and be confident in their responses when the issues arise. In some cases, homemade diets are an appropriate response. For others, client education and a recommendation for an appropriate commercial food are more suitable.

Evaluating Homemade diets

Some clients may ask about, or be feeding, homemade diets. There are a number of reasons why clients may be interested in homemade diets. Understanding their reasons should influence the recommendation you provide. Some of these reasons include:

- Desire for greater involvement with their pet's care
- Concern about ingredient & nutritional quality in commercial foods
- Appeal of "natural" foods
- Desire to provide greater variety
- Lack of understanding about nutritional needs of pets
- Lack of understanding about pet food labels
- Cost

If the motivation for feeding homemade diets is based on a lack of understanding about commercial pet foods, many clients would be best advised by addressing their questions and helping them find a suitable commercial food. Some of these common concerns are addressed below.

Preparation of homemade diets does take time and involvement. For clients sufficiently and appropriately motivated to do so, complete and balanced homemade diets can be prepared. However, many people do not consume balanced diets themselves, so cannot be expected to provide balanced diets for their pets without assistance. It is recommended that an ACVN boarded veterinary nutritionist (contact www.ACVN.org or www.petdiets.com) be consulted for individualized guidance in planning or reviewing homemade diets. Several “generic” recipes have been published that may be used. However, while these recipes are formulated to provide complete nutrition, based on average nutrient content and average nutritional needs, individual animals should be monitored over time to assure apparent good nutritional health. Even if the original recipe is appropriately balanced for a pet, “recipe drift” is a concern that requires close attention.

When evaluating recipes for homemade foods, some rough guidelines to consider include:

- Does the recipe include sources for protein, carbohydrate, fat, calcium, trace nutrients and vitamins?
- Are the carbohydrate sources properly processed to assure digestibility?
- Does the feeding program provide adequate variety in ingredients used?
- Does the dog or cat consuming the food appear healthy and active, and in good body condition?

BARF diets

The most popular type of homemade diet, at least based on internet traffic, is the “BARF” feeding system. BARF (Bones and Raw Food or Biologically Appropriate Raw Foods) is not a single diet, but a philosophy of feeding based on raw foods. Numerous recommendations exist, but no single “recipe”. According to anecdotal information, feeding BARF diets can provide balanced nutrition. However, it is not without risks. Some risks associated with BARF diets include: nutrient deficiencies & excesses; gastrointestinal damage or impaction from bones; bacterial and/or parasitic infection. This latter aspect has zoonotic implications as well. A recent study (Joffe DJ *Can Vet J* 2002;43:441) documented that *Salmonella* was isolated from the feces of 30% of pet dogs fed homemade BARF diets (vs 0% in dogs fed commercial foods), and from 80% of the BARF diet samples.

Myths and misperceptions regarding pet foods

Numerous misunderstandings exist regarding commercial pet foods and pet nutrition. It is important to know as much as possible about these issues so that you can provide the best advice to your clients.

MYTH: “Dogs and cats do not require carbohydrates, so they should consume foods low in carbohydrates and grains.”

FACT: While adult, non-reproducing dogs and cats do not require a dietary source of carbohydrates, they DO require carbohydrates at a cellular level (glucose). To assure that cells have a constant supply of carbohydrate, mammals have evolved numerous mechanisms, including hormonal controls (e.g. insulin and glucagon), and synthetic and release systems (e. g., gluconeogenesis and glycolysis) to produce and control glucose. Thus, dogs and cats can survive without a dietary source of carbohydrates because they can make carbohydrate from amino acids and the glycerol backbone of triglycerides. However, if they consume adequate carbohydrates in their diet, the need to produce carbohydrate *in vivo* is reduced. This allows dietary proteins to be used to support protein synthesis rather than being diverted to gluconeogenesis. Normal dogs and cats are both well able to digest and utilize dietary carbohydrates from properly processed or cooked sources, such as grains.

MYTH: “Commercial pet foods lack enzymes necessary for normal digestive function”

FACT: The cooking process that pet foods undergo, whether extrusion, retorting, or baking, renders most enzymes present in food ingredients inactive. However, these enzymes are not necessary for normal digestive function. Animals make and secrete their own digestive enzymes, such as those produced by the stomach, pancreas and intestinal cells. In addition, some enzymes in natural foods can destroy nutrients or make them unavailable. For example, raw soybeans contain a trypsin inhibiting enzyme that

interferes with protein digestion. Some raw fish contain thiaminase, an enzyme that destroys the B-vitamin, thiamin, and raw eggs contain avidin, which destroys the B-vitamin biotin. These enzymes are destroyed by extrusion or heat treatment, protecting the nutritional quality of foods.

MYTH: “Meat and bone meal, poultry by-product meal and other rendered animal meals consist of indigestible or undesirable animal parts such as feathers, hooves, and fecal matter, and provide poor quality nutrition.”

FACT: According to regulatory guidelines, by-products consist of various parts of the bird or animal, but specifically exclude feathers, hair, hide, hooves, manure and stomach contents. It may include such things as heart, lungs, liver or other organs, meat trimmings and other tissues. While these tissues are not widely consumed by people in the United States, many are considered delicacies for human consumption in other cultures. These also are the same tissues consumed first by animals in the wild. Rendering is the process of cooking these tissues to allow the fat to be separated from the protein. The final result is dried into a protein-rich powder, or meal. Meat meals and poultry meals can provide excellent sources of protein and essential amino acids. Rendering conditions, as well as the quality, handling and source of raw materials used, can greatly influence the quality of the protein meals produced. Therefore many pet food companies contract with specific suppliers so that consistent quality of the ingredients can be assured. To determine if a particular product uses good quality by-product meals, veterinarians can contact the manufacturer to ask about the digestibility of protein in that pet food.

MYTH: “The hidden ingredients in a can or bag of commercial pet food may include roadkill and the rendered remains of cats and dogs.”

FACT: By law, tissues from animals other than cattle cannot be included in beef and bone meal. Likewise, only poultry tissues are used to make poultry by-product meal. While it is within the legal definition that rendered mammals of all types be included in “meat and bone meal”, the major pet food companies do not use such ingredients. To assure quality and content of their ingredients, the major pet food companies contract with specific suppliers so that consistent quality of the ingredients can be assured, and rendered pets are not used. The FDA confirmed this with a recent survey, analyzing random samples of pet foods for canine and feline DNA. All tests were negative

MYTH: “Like many other pet food ingredients, soy is virtually unusable by an animal’s body.”

FACT: Soy is an excellent source of multiple nutrients, including fatty acids; protein and amino acids; carbohydrates; and soluble and insoluble dietary fiber. In addition, soy provides other beneficial compounds such as isoflavonoids and oligosaccharides. When soy protein is used in properly balanced diets containing complementary amino acids, soy provides a highly digestible source of quality protein.

MYTH: “The so-called animal feeding tests conducted by pet food companies are nothing more than short term palatability tests”.

FACT: The major pet food companies do conduct palatability tests, since this is an important characteristic of pet food. Even the best nutrition would go to waste if pets would not eat the food. On the other hand, many other types of research are pursued. Pet food companies spend millions of dollars and maintain large research facilities to allow them to continue learning about pets’ nutritional needs and ways to enhance health through nutrition. Digestion and urinary acidification trials are examples of short term tests used to evaluate various aspects of finished products. Pet foods with nutritional adequacy substantiated by animal feeding trials are required to follow a minimum protocol established by AAFCO. These may include adult maintenance tests of at least 6 months duration; reproduction trials which last throughout gestation and lactation; and growth trials, which evaluate growing puppies or kittens during 10 weeks of their most rapid growth. Longer-term studies also are conducted by some companies, and may include multi-generational reproduction studies, multi-year feeding studies, or even a life-long study.

Basic and clinical research studies are also conducted. Studies can be conducted at the molecular to the whole animal level, and may take years. Some of this research results in scientific publications or

educational materials for veterinarians. Other research may never be published, yet the data often result in improvements to pet foods. Pet food manufacturers also provide funding for independent scientists to pursue research in nutrition and animal care, as well as providing educational and other support. The result is extensive knowledge about the nutritional needs of pets, and ways to deliver this nutrition in the form of nutritious, palatable, convenient and affordable pet foods.

MYTH: “Additives and preservatives in commercial pet foods are unnecessary and cause disease in dogs and cats.”

FACT: The additives, such as coloring agents, and preservatives typically used in pet foods have been tested for safety and have been approved by the FDA for use in both animal and human foods. The most commonly used preservatives in dry pet foods are antioxidants. Foods without antioxidants will undergo oxidative damage and become rancid in a very short period of time. The antioxidants protect the essential fatty acids and fat soluble vitamins so that these critical nutrients will be available to the pet. Some antioxidants also can provide health benefits. The antioxidants used in pet foods, whether natural (such as mixed tocopherols/vitamin E) or synthetic (such as ethoxyquin or BHT), are approved for safety by the FDA. These same antioxidants can be used in foods for human consumption. Some additives used in pet food, such as coloring dyes, do not provide a nutritional benefit for the pet, but provide physical features desired by some pet owners. Some individuals consider vitamins and minerals included in nutritionally balanced pet foods as additives, perhaps because of a lack of understanding about the ingredient names listed on the pet food label. It may be necessary to explain to clients that, for example, thiamine mononitrate, pyridoxine hydrochloride and alpha-tocopherol acetate are vitamins B1, B6 and E, respectively, while manganese sulfate and calcium iodate are sources of essential minerals, rather than being the “dangerous chemicals” they may perceive them to be.

MYTH: “The ‘digest’ used as flavor enhancers in commercial pet foods is just feces.”

FACT: Digests, such as poultry digest, are produced by incubating meat or tissues from poultry with digestive or chemical enzymes that break down the protein, in essence, digesting it. This effect is the same as would occur in the stomach and small intestine, except that the digestive process is halted at an appropriate place, leaving a mixture of proteins, peptides and amino acids. This mixture provides a highly digestible source of proteins and essential amino acids, and is highly palatable to dogs and cats.

MYTH: “Dry foods contain a lot of grain fillers that hold the kibble together. Those fillers don’t contain any nutrients, and just go in one end and out the other.”

FACT: “Fillers” may be defined as feed ingredients with little or no nutritional value. Based on this definition, grains certainly are not “fillers”. Properly cooked corn, rice, wheat and other grains commonly used in pet foods provide highly digestible sources of carbohydrates for energy, plus essential fatty acids, protein and essential amino acids, and other nutrients. The nutritional quality of the finished pet food depends on the quality of the ingredients used, the correct balance of nutrients, and the appropriateness of processing and handling. Current regulations do not allow manufacturers to include statements of ingredient quality in their ingredient listing but information about the digestibility and nutritional quality of pet foods is available from most reputable manufacturers.

MYTH: “Since cats are true carnivores they cannot tolerate a grain-based diet.”

FACT: Cats do require some nutrients found predominantly in animal tissues. Some examples of these are arachidonic acid, taurine and pre-formed vitamin A. Because of this, cats cannot thrive on completely vegetarian diets unless those diets include synthetic sources of these animal-derived nutrients. However, cats are easily capable of using proteins, carbohydrates and other nutrients from grains and other plant sources. Cats can digest carbohydrates from grains with over 90% efficiency when the grains are properly processed and included in a complete and balanced food.