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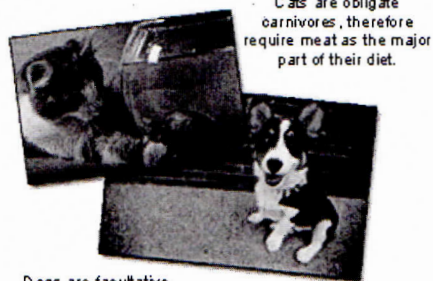
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Nutrition – Natural Approaches to Feeding

As a modern society, we understand the importance of food quality in maintaining or improving our health. We know that we need to eat good quality food in the appropriate quantity and balance for optimal health. Currently, questions are being raised about the nutritional choices we have been making for our pets, and whether they are appropriate. In the 1940's we began relying on pet food manufacturers to provide us with commercially prepared, conveniently packaged, nutritionally complete and balanced foods for our pets. In the latter part of the twentieth century, a counter-movement that shunned this approach began to gain acceptance. Advocates of both methods of feeding are equally convinced that their method is the best.

Do dogs and cats have special dietary requirements?

In general, cats are obligate carnivores, and require meat as the major part of their diet. Dogs are facultative carnivores, and can fare well with a varied diet containing meats, grains, vegetables, grasses, etc. Because of their physiologic differences, dogs and cats have specific requirements for certain essential amino acids (components of proteins) and other nutrients. For example, cats require a relatively high level of taurine compared to dogs to



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Dogs are facultative carnivores, therefore require meat as the main ingredient with small amounts of grain and vegetation.

remain healthy.

"...cats are obligate carnivores..."

The ideal food for a cat would be a raw, healthy mouse or bird, eaten in its entirety. The ideal food for the 'average' dog would be fresh whole prey, eaten raw and supplemented with whatever fresh grasses, fruits and berries are in season. However, these choices are either socially unacceptable or impractical for most of our pets. Our goal as caregivers is to provide the next-best choice.

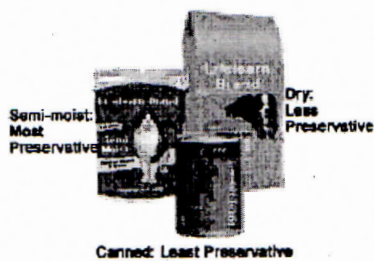
"Different breeds of dogs have been shown to have different abilities to digest the same diet."

Breed and function of pets must also be considered when selecting the optimal diet. Different breeds of dogs have been shown to have different abilities to digest the same diet. Breeds of dogs that were developed in specific locations, such as Arctic Circle breeds and some of the 'water' breeds may have adapted to specialized diets that are common in their place of origin. Working pets (hunting dogs, field trial dogs, herding dogs, show cats) require different ratios of proteins and fats in their diets than 'lap dogs' or sedentary house pets. Inbreeding and genetic differences between individuals in each species may result in further need for individualization of the pet's diet in order to optimize health.

What are some of the benefits and drawbacks of commercial diets?

Without doubt, a commercial diet is more convenient, and enough has been learned about basic dietary requirements to prevent overt nutritional deficiencies. Well-established or well-recognized brand names, especially 'premium' brands, have often been demonstrated by feeding trials to support adequate nutrition. In feeding trials, large groups of animals are fed the specific diet and are shown to remain healthy throughout the different stages of their lives.

Relative Preservative Content of Commercial Food Types



Pet foods may contain ingredients with sub-optimal quality, and additives are frequently used to ensure a diet meets basic nutritional requirements.. Processing can further degrade the nutrient quality of the food. Thus, manufacturers may add certain nutrients after processing to compensate for losses due to processing.

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All pet foods must contain some form of preservatives in order to prolong shelf life. Semi-moist formulas contain the highest levels of preservatives, followed next by dry diets. The process of canning minimizes the need for preservatives, so canned products usually contain the least preservatives. Products that are 'naturally-preserved' generally have a shorter shelf life because natural preservatives, especially vitamin C and vitamin E, tend to oxidize or break down rapidly. Oxidation is accelerated by exposure to air once the container is opened, leading to rancidity or mold formation.

Pet food formulas are based on macronutrient and micronutrient profiles recommended by organizations such as the Association of American Feed Control Officials (AAFCO). These profiles may not be adequate in all cases since they, in turn, were developed from National Research Council guidelines, which assume complete bioavailability of the nutrients and leave no margin of error for breed differences, impaired absorption, reduced digestibility of certain foodstuffs, or changes in animal physiology in certain disease states.

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Even adequate macro- and micronutrient levels may not guarantee nutritional adequacy. Many pet foods have a cereal base, which may meet nutrient profiles, yet still be inappropriate as the main ingredient in a diet intended for carnivorous species such as cats, and in some cases, dogs. Nutraceuticals, which serve as co-factors and components of essential biochemical processes, are not even considered in the formation of nutritional guidelines. Some holistic practitioners recommend that pets fed a diet of commercial food should receive supplemental meats and vegetables to provide nutrients that have yet to be recognized as essential components of the carnivorous diet.

Recent concerns have been raised specifically about the practice of feeding dry foods to cats. Dry foods are often fed in a free-choice manner, which may lead to obesity due to over-consumption of grains (carbohydrates). There are concerns that carbohydrate excess in cats may predispose them to diabetes Mellitus. In addition, cats eating dry diets may be more predisposed to developing urinary problems such as crystals due to the production of more highly-concentrated urine.



Understanding pet foods labels is important.

What do I need to know about pet food labels?

"At the present time, pet food labels are only required to show a chemical analysis, which does not necessarily equate to nutrient availability."

At the present time, pet food labels are only required to show a chemical analysis, which does not necessarily equate to nutrient availability. For example, hair, skin, muscle meat, and soybeans are all composed primarily of protein, but differ in quality and digestibility. A label that claims 'no preservatives added' does not claim the food contains no preservatives, but merely that the manufacturer did not add any. Preservatives may still have been added by a manufacturer's suppliers. To avoid preservatives, look for a label that says 'preservative-free'. A preservative-free food will often have an extremely short shelf-life unless it is a frozen food.

What are the some of the benefits of feeding a home-prepared diet?

Supporters of feeding home prepared diets in pets emphasize the importance of a variety of fresh whole foods for the maintenance of health.

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The benefits of homemade diets include confidence in the freshness and wholesomeness of the ingredients (especially if you use organic source foods), and the potential inclusion of non-essential or synergistic components such as nutraceuticals in the diet. Many dogs and cats have improved hair and skin condition and increased levels of energy on homemade diets. The exception to this is the pet with pre-existing allergies to one or more components of the diet.

What should I know about feeding a home-prepared diet to my pet?

Home-prepared diets must be adequately balanced to maintain health. The optimal way to avoid nutritional deficiencies and excesses is to follow diet recipes that have been formulated by animal nutritionists or that otherwise meet the basic nutritional requirements for the species. To avoid trace nutrient deficiencies or excesses, it is recommended to vary each diet component, for example by using different protein, vegetable, and grain sources with each batch of food. Caution should be exercised however, because the nutrient composition of different components may vary significantly. Some recipes will provide appropriate substitution quantities to facilitate varying the recipe.

"...it is absolutely necessary to provide supplemental calcium in all home prepared pet diets."

Because meats and many vegetables are deficient in calcium, it is absolutely necessary to provide supplemental calcium in all home prepared pet diets. Most diet recipes include vitamin and mineral supplements. If the food is cooked and these supplements are added before or during the cooking process, they may become denatured or inactivated. This is a particular problem with some vitamins.



Great care must be taken when formulating a home-prepared diet for pets to avoid nutrient deficiencies or excesses.

What are the risks of feeding a home-prepared diet to my pet?

The ratios of individual dietary components in different recipes will vary considerably, and adhering to one recipe exclusively may cause severe nutritional imbalances. You should also avoid using recipes that are complicated or time-consuming to prepare, since you will be more likely to take shortcuts in the preparation. It is not enough to just feed a diet of table scraps, or to toss some meat, grains, and vegetables into a bowl for your pet. If you do that, your pet could end up malnourished.

Problems may occur if pet's diets are either under- or over-supplemented with certain vitamins and minerals. The most common imbalances in home-prepared diets involve calcium, phosphorus, zinc, magnesium, and iron. Animals with increased nutritional needs associated with growth or reproduction have different requirements for energy and nutrients, and require enhanced protein levels and optimal ratios of vitamins and minerals to support growth.

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Some popular authors of pet diets recommend feeding grain-free (or carbohydrate-free) diets, raw meat diets, or raw food and raw bone diets. Most research evidence suggests that healthy animals are resistant to bacterial pathogens found in commercially available raw pet foods. It also appears that animals are able to digest finely ground raw bones without problems.

"...even healthy animals can shed pathogenic bacteria in their feces, possibly presenting a health risk to their human companions."

However, animals with compromised health may be susceptible to illness caused by bacteria, and even healthy animals can shed pathogenic bacteria in their feces, possibly presenting a health risk to their human companions. Raw bones may be fine in a diet, depending on the size of the pet being fed and the size of the bone. An improper size of bone may cause an intestinal accident such as an obstruction. Cooked bones must NEVER be fed, since they are brittle and prone to splintering, which can cause both obstructions and perforations of the intestinal tract.

How can I minimize these risks?

Discuss your pet's diet candidly with your veterinarian, including any treats or supplements that you provide. Have your pet examined regularly so that any early indicators of problems may be detected.

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Since animals age more rapidly than humans, a good rule of thumb is to have a complete physical examination every six months. In addition to a physical examination, it is prudent to have a biochemical analysis and complete blood count conducted on the pet's blood at these intervals. Periodic radiographs to assess bone density and structure as well as tissue density will assist in detecting overt mineral imbalances such as calcium deficiency.

What symptoms or conditions may be treated with home-prepared diets?

Symptoms such as excessive shedding, itching, skin lesions, and digestive disturbances have been correlated with allergies or intolerances to components of commercial diets, or to the nutritional inadequacy of the diet for a specific individual or breed. Conditions related to insulin resistance such as type II diabetes mellitus may respond dramatically to a low carbohydrate diet, especially in cats.

Animals with specific dietary needs or health problems may show dramatic improvement in their state of health when fed a home-prepared diet that has been nutritionally formulated to meet these needs.

This client information sheet is based on material written by: Steve Marsden, DVM ND MSOM LAc DiplCH AHG, Shawn Messonnier, DVM and Cheryl Yuill, DVM, MSc, CVH

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