



### **Biography of Anton C. Beynen**

Anton C. Beynen was born in 1953. As from 1987 he has held 7 different professorships. He now is head of Research and Development for Vobra Special Petfoods BV, Veghel. The Netherlands.

Anton Beynen has a M.Sc. of human nutrition (1977) and wrote a Ph.D. thesis (1981) on the regulation of fat metabolism. As a professor at Wageningen University, The Netherlands (1987-1992), at the University of Indonesia, Jakarta, Indonesia (1991-1993), at Utrecht University, The Netherlands (1993-1998, 1995-1999, 1999-2007), at Rajamangala University of Technology-Isan, Sakon Nakhon (2006-now) and at King Saud University, Riyadh, Saudi Arabia (2009-2014) he has supervised PhD students and taught basic and applied animal nutrition to students of veterinary and biomedical sciences. Anton Beynen carries out research, the main topic now being diet in health and disease in dogs and cats.

In 1993 Anton Beynen received, as the first non-US investigator, the Bio-Serv Award of experimental animal nutrition. In 2000 he was honoured as best teacher of the Faculty of Veterinary Medicine and in 2002 he was the most prolific supervisor of Ph.D. students of Utrecht University. Anton C. Beynen has served on the editorial board of 12 international journals, is supervisor of 51 completed Ph.D. theses and is (co)author of more than 700 publications of which 430 are indexed by PubMed ([www.ncbi.nlm.nih.gov](http://www.ncbi.nlm.nih.gov)) and has been recognized as highly cited author in the area of agricultural sciences ([www.isihighlycited.com](http://www.isihighlycited.com)).

## **Natural trends in dog and cat nutrition**

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### **Summary**

There is a wide variety of dog and cat foods on the market. Industrially prepared pet food comes in different brands and forms and with different prices and claims. How a product will be advertised and sold relates to the marketing concept. Contrasting, basic marketing concepts for pet food can be identified. Among these concepts there can be modifications, combinations and crossovers.

Fully grown markets with a high percentage of pets consuming commercial foods have close to flat volume sales. In order to increase sales money value, pet food manufacturers launch more expensive products founded on new designs and nutrition trends. The selling points of products may concern price, exclusive ingredients, animal category, animal health or the owner's view of life.

Mature pet food markets are dominated by natural foods and their grain-free subclass. Natural foods are not allowed to contain chemically synthesized substances, except for vitamins and minerals. Grains are pushed into unnatural, unhealthy and unsuitable, but the arguments are false. At the same time, well-formulated grain-free foods are nutritionally adequate.

Organic and holistic pet foods usually are grain-free or wheat- and corn-free. Organic plant and animal ingredients must meet defined criteria as to production and processing. For commercial pet foods the predicate holistic has no clear meaning.

Ancestral, evolutionary, instinctive or wild foods claim to simulate what dogs and cats would eat in nature. The extruded dry foods normally are grain-free and high in animal protein. Ancestral frozen and freeze-dried foods feature raw as additional claim.

### **Natural and organic foods**

In various countries, more and more dog and cat owners are turning to natural pet food, with no slowdown in sight. Many owners believe that natural foods are healthier for their pets. Understandably, pet food manufacturers are riding the natural wave. A wide variety of natural foods can be found on the shelves at pet stores. Organic pet foods occupy one of the niches within the natural segment of the market.

There is legislation for using the words natural and organic on the pet food label. The term natural is allowed when no chemically synthesized substances are present in the product, except for certain additives. Pet foods labeled natural generally are not 100% natural, but contain some synthetic substances. Organic relates to a defined system of producing and handling plant and animal ingredients. Pet foods linked with organic usually are not

composed of 100% organic ingredients. Nutritionally speaking, there are no systematic differences among natural, organic and other pet foods. Owners attracted by natural or organic feeding and trying to choose the best foods for their pets may be guided by their own judgment, practical experience and information on the pet food label. If desired, the pet food manufacturer may be contacted for details.

### **Grain-free foods**

Grain-free foods for dogs and cats are ubiquitous in the developed pet markets. At the root lies the belief that nature did not design dogs and cats to consume grains and utilize the starch constituent. Conformity, among pet owners and food manufacturers, has made grain-free a top trend. Clearly, many owners now believe that grain-free is how their pets should eat for optimum health. It is unclear whether these owners are in touch with the inferiority of the arguments against using grains. In any event, fact is that available evidence indicates that dogs and cats thrive on grain-rich foods.

The term grain-free applies to different types of foods. Grain-free foods can be high in starch, equaling high in carbohydrates (carb). These grain-free, high-carb foods are at variance with the as-nature-intended belief. High-carb foods are not high in protein. Owners disliking grains and preferring protein-rich and/or meat-first foods should look for grain-free, low-carb foods.

Pet food labels may draw attention to the absence or presence of specific grain species. Common claims are no wheat and no corn. Some brands resist the grain-free pet food wave and promote grains as excellent ingredients for dog and cat foods.

The topic of grains and health has added to the diversity of industrially produced pet foods. The descriptor grain-free is easily understood, but complexity may arise from the availability of various types of grain-free foods and the expelling and glorifying of specific grains. For many pet owners the grain issue makes it difficult to choose the best foods for their dogs and cats. The bottom line may be reassuring: well-formulated foods, with or without grains, all provide good nutrition for dogs and cats.

### **Holistic foods**

Holistic is a term often seen on a bag of pet food, but the meaning is hard to grasp by merely reading the label. The word holistic relates to holism, which is a theory viewing the world as a single system with all parts of living and non-living nature as equal, interactive and interdependent. Holistic medicine attempts to treat the whole patient rather than its parts with perceptible disease only. There are no regulations or legal definitions for the word holistic put in pet food labels. Any manufacturer is free to use the term holistic in marketing its products. Based on the medical meaning, it could be suggested that all commercial, complete and balanced pet foods, which by extended, legal definition support the entire animal, are holistic. Within this context, holistic as package claim would not make a difference.

Commercial dog and cat foods labeled holistic in fact are natural foods carrying the absence of artificial substances as major claim. Different holistic foods may propagate different,

additional marketing claims. Holistic veterinarians generally regard the wolf's diet as ideal for domestic dogs and advise compatible home-made rations or specific commercial, meat-based frozen foods.

Holistic and non-holistic, industrially produced pet foods have no divergent, systematic impact on dog and cat health. Owners who wish to learn the premises underlying the link between holistic and a certain pet food brand should contact the manufacturer. It is every way reasonable to ask for an explanation of the word holistic on the package. Owners may use the feedback to decide which pet food is acceptable and which falls short of their concept.

### **Wild foods**

Wild pet foods can be typified as foods imitating market-relevant aspects of the diet that dogs or cats could find in the wild. Commercially prepared wild pet foods belong to the category of grain-free, natural foods, but they go beyond free from grain starch and synthetic additives. Promotional materials for kibbled and canned foods highlight the philosophical basis by terms such as ancestral/evolutionary, instinctual or biologically appropriate ingredient ratio. Frozen and freeze-dried raw foods make the additional claim that raw is the most natural form of pet nutrition.

The philosophy backing wild foods can be challenged by contemplative, logical and scientific arguments. Extruded wild kibbles are generally higher in protein and lower in carbohydrates than other extruded foods on the market. Versus extruded wild kibbles, frozen and freeze-dried raw foods provide more fat and less carbohydrates. All production forms of wild foods contain similar levels of protein, when expressed as percentage of dietary energy. Worth mentioning, the wild foods furnish about two thirds of the amount of protein consumed by wolves and feral cats in the wild. At any rate, complete and balanced wild pet foods all represent appropriate nutrition for healthy dogs and cats.

### **Home-prepared foods**

Anyone can have her or his opinion about dog and cat nutrition and put it into practice, provided no harm is done. Some owners make their own pet diets which they believe to be healthier than commercial foods. There is no objective evidence that adequate, self-prepared diets have health advantages when compared with industrially produced, complete pet food.

In principle, people can prepare nutritionally appropriate diets for their pets. However, home-made diets entail a certain risk of malnutrition. Practical examples are shortage of calcium and vitamin D in dogs and excess of vitamin A in cats. There is no feeding practice with zero risk. The health risks of home-made diets and industrially produced dog and cat foods cannot be compared directly, but it is likely that commercial foods are safer.

Nutrient deficiency hazards in adult animals put on home-made diets can be minimized by feeding a complete, commercial food as at least one third of the total diet. Diets containing raw animal ingredients potentially cause human infections through pathogenic bacteria or parasites, but the risk magnitude is unknown.

All home-made raw food diets are not alike. In 1993, Billinghurst proposed that a dog's diet should consist of about 60% raw, meaty bones. A balanced diet would consist of bone meals combined with variable meals based on raw green leafy vegetables, milk, offal, meats, cooked grains, potatoes or legumes. Each meal is not balanced, but the overall diet over a 2 to 3-week period is expected to be nutritionally complete. Billinghurst published his second book in 1998 and then used the echoing term BARF, an acronym for "Bones And Raw Food".

Others have also advocated their interpretation of home-made raw food diets. In her book released in 1995, Volhard recommends to feed cereal in the morning, raw beef and vegetables in the evening and further foods according to a rotating schedule. Schultze (1998) describes the Ultimate Diet raw food pyramid with raw muscle tissue, organs and eggs as foundation. Raw bones and raw vegetables make up the second and third largest sections of the diet, followed by an extras category. In 2001, Lonsdale's book entitled "Raw meaty bones" appeared. In 2003, the ebook "Raw food for dogs" was launched by Eliassen.

### **Literature**

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