

Pet health *Vital* ingredients?

By: Dr George Collings

You do not have to go very far on the internet or in the pet food store to see the word 'vital' or 'vitality'. Vitality speaks of being strong and active in terms of health. Vital can refer to processes, organs and fluids that pertain to life or are necessary for life. When used in relationship to nutrition, vital ingredients or nutrients may be important for the overall nutritional balance. Some ingredients and nutritional compounds are positioned to help bring longer, healthier lives to pets. Some of these will be discussed below.

Is fibre vital?

Fibre encompasses a wide variety of components coming from plants. Some are effective in improving fermentation and intestinal health. Others are useful to lower calories and increase satiety. Others are useful to build structure of meat components, dental products and extruded products. Many would connect fibre as a component found in all ingredients from plants with limited importance. However, some fibre components can bind minerals, upset the intestinal tract and cause flatulence in dogs. The diversity does not provide a simple answer to the vitality of each component, but clearly many fibre types are useful in pet nutrition products. The fibre guarantee for the consumer is very misleading (crude fibre) as it represents an analysis procedure from the wood pulping industry of the 1800s and gives no physiological connection.

Are probiotics vital?

Probiotics or beneficial bacteria have been shown to promote some advantages in the intestinal tract when delivered properly to pets. The real question becomes: "Can they be delivered in dry pet foods?" Many studies have shown that lactic acid bacteria are not stable and will not survive through a heat step like extrusion and likely will not survive

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if coated on the outside of pet foods (although some new protected probiotics are changing that perception). If probiotics can be delivered effectively into the food (and in adequate numbers); then improvements in intestinal health, immunity and other diseases might be accomplished.

Are prebiotics vital?

Smaller chains of fibres have been termed 'prebiotics' and are viewed as 'food' for the beneficial bacterial in the intestinal tract. Some are highly fermentable and can lead to negative consequences like loose stools and diarrhoea. Others lead to positive results by increasing key beneficial bacteria. There are many types which are called neosugars or new sugars (e.g. fructooligosaccharide or FOS, galactooligosaccharide or GOS, xylooligosaccharide or XOS), but some natural fibres may be more supportive to provide the nutrition necessary for the colonic bacteria.

Is vitamin C vital?

A definite requirement for ascorbic acid (vitamin C) is observed in guinea pigs, new world monkeys, song birds, some fish and other animals. There appear to be health situations where additional vitamin C would be beneficial like arthritis. From a food science view, the action of vitamin C in enhancing flavour development or reducing rancidity is known. However, the high heats of pet food processing virtually eliminate all of the added vitamin C from ascorbic acid. The alternative is to add a stabilized source to reduce these losses.

Is carnitine vital?

Carnitine, an amino acid like compound, is well known for its role in energy metabolism helping the body utilize fat more effectively. As many meats, fish, and poultry have a wide

variety of carnitine content, the varieties of pet food formulation provide wide range in carnitine. Certainly, additional carnitine can help support long-term health problems in pets including weight issues, obesity and energetic.

Is glucosamine vital?

With the increase in use of chondroprotective ingredients in human supplements, similar uses were found for joint issues in pets leading to some improvement in joint health. While some would say that natural sources are more effective, many use glucosamine, chondroitin and hyaluronic acid in pet supplements and functional treats. The levels and the availability are clearly not well understood and lead to some products that are ineffective leading the US FDA to state their opinion that these compounds are not yet approved.

Are chelated minerals vital?

Having been in the animal nutrition market for 30+ years, multiple sources of 'chelated' minerals have developed. Chelates refer to the binding of a mineral with a process to produce a final ingredient that becomes a more available form of that mineral (e.g. zinc, copper, iron, et cetera). Each process has some similarity and some difference. Using oxide forms of minerals has proven to be a negative choice in most diets as oxide forms are not as available to animals. So, offering chelated minerals as alternative is a viable choice as are soluble forms of those minerals.

Are fruits and vegetables vital?

Over the last ten years, it is very common to find pet foods with carrots, lettuce, beets, apples, blueberries, et cetera. While each of these ingredients offers some very unique

nutritional levels and compounds, the wide variety of health claims is not well documented in pets. Humanized pet foods use many fruits and vegetables as part of their appeal to the consumer focusing on the antioxidants provided by these ingredients. This does not suggest that there might not be some beneficial health effect, but it is just not well researched at this time.

Are antioxidants vital?

In human nutrition products, the term antioxidant refers to a physiological role that many ingredients have in supporting immunity and health. While providing antioxidant nutrients is important physiologically, providing antioxidants in the food to prevent rancidity is equally important. Without the proper types and levels of antioxidants in the food, the chances of rancidity are higher and can lead to many health complications. Rancidity can reduce palatability and affect the stability of many essential vitamins. With the advancing variety of ingredients, the challenges of stability are even greater than ever.

The question of what is vital can be asked of enzymes, odour reducers, immune enhancers, key peptides, amino acids and many newly defined nutritional nutraceuticals. The pet food industry has been active in researching and finding ways to improve health. It has discovered the balance of omega 6 and omega 3 fatty acids, the use of DHA in puppy diets, controlling energy and calcium in large breed dogs, cleaning of teeth and reducing gingivitis with elastic chew bones and the importance of cooked starches on digestion in both dogs and cats. Producing foods for growth, new life, activity, health and yes... vitality is the primary focus of many good pet food companies. ■