

## Vegetarian and Vegan Diets

Cats and dogs have very specific nutritional needs that are affected by many variables including breed, level of activity, age, size and sex. It is sometimes supposed that the nutritional needs of cats and dogs are similar and that they can be fed the same food. This is not the case; both cats and dogs have evolved differently and their physiology and needs are very specific to their species



**If you are thinking about a vegetarian diet for your cat or dog, the information below provides an overview of factors to consider. It is also important to get advice from your vet or animal nutritionist.**

### A Vegetarian Diet for Dogs

Dogs are omnivores and can adapt to a well-balanced vegetarian diet. There is a wider range of commercially prepared 'complete' vegetarian dog foods available and for the majority of owners this is the safest way to feed a vegetarian diet. Once again, we advise that these feeding options are discussed with the vet or animal nutritionist.



### Home Prepared Vegetarian Diets for Cats and Dogs

Studies have shown that nutritional errors are commonplace in many homemade diets<sup>1</sup>; providing a nutritionally balanced, homemade vegetarian diet is a complicated task that would require meticulous planning and a specific formulation from a vet or animal nutritionist – particularly for cats.

A survey of 86 vegetarian dogs fed on a homemade diet in Germany, Switzerland and Belgium found that over 50% of the dogs were fed diets deficient in protein, essential amino acids, calcium, zinc and vitamins D and B12. Dietary deficiencies can have a significant impact on long term health and well-being.

### Vegan diets for pets

Vegan foods (no animal products) should be carefully checked by a vet or animal nutritionist as they may be deficient in arginine, lysine, methionine, tryptophan, taurine, iron, calcium, zinc, vitamin A and some B vitamins<sup>2,3</sup>. Meticulous attention to detail would be needed to assure nutritional adequacy and palatability.



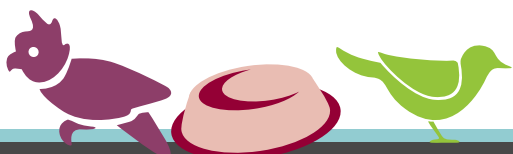
**More advice on diets and nutrition can be found at [www.pfma.org.uk](http://www.pfma.org.uk)**

<sup>1</sup> University of California, Davis School of Veterinary Medicine 'Homemade dog food recipes can be a risky business, study finds' (15 July 2013)

<sup>2</sup> A Field Study on the Nutrition of Vegetarian Dogs and Cats in Europe. Jan 1998-Dec 1999. E. Kienzle, R Engelhard.

<sup>3</sup> Dwyer JT. Nutritional consequences of vegetarianism. Annual reviews of nutrition 1991; 11: 61-69.

<sup>3</sup> McDonald P, Edwards RA, Greenhalgh JFD, et al. Evaluation of foods – protein. In: Animal Nutrition, 5th ed. Harlow (Essex), UK: Longman Scientific and Technical, 1995.



## Vegetarian and Vegan Diets



### A Vegetarian Diet for Cats:

The cat is an obligate carnivore and has highly exacting nutritional needs, for this reason we advise owners to think very carefully before providing a vegetarian diet for their cats, and to ensure they get advice from a veterinary nutritionist.

Whilst no member of the PFMA produces a commercial 'complete' vegetarian cat food, there are some available on the market. If a cat owner is intending to feed one of these products, we would recommend the owner discusses this option with their vet in the context of the individual needs of their cat.

Cats have high requirements for protein and amino acids which their bodies breakdown very rapidly. If resources run low they're unable to reduce the rate of breakdown which makes them particularly sensitive to deficiencies.

The particular importance of **taurine** (an amino acid exclusively found in animal-based proteins) in cat nutrition is well documented. It is an essential nutrient for cats and deficiency can lead to blindness and/or heart failure. Cats have minimal ability to synthesise sufficient taurine to meet their needs and therefore

require a dietary supply which is found exclusively in animal derived materials. Whilst synthetic supplements are available, these can vary in bioavailability and there is no margin for error.

**Arachidonic acid** (an essential fatty acid) is another example of a nutrient required by cats only available from animal sources, along with **preformed vitamin A (retinol)** as cats cannot utilise sufficient quantities from Beta Carotene, its precursor found in vegetables.



It is important to note that too much vitamin A can be as detrimental as too little. Many owners feed liver and cod liver oil to cats which can often exceed their requirement for vitamin A. This can lead to vitamin A toxicity (because they have a lower toxic threshold than dogs and people to this vitamin) which can result in a crippling fusion of the spinal vertebrae.

Cats also need to sustain good levels of **vitamin B12** found naturally in animal based ingredients.

### DID YOU KNOW:

#### Marine algae can provide a vegetarian fish free source of important fatty acids

Cats and dogs, during growth and reproduction stages of their lives, have specific requirements for Omega 3 and Omega 6 long chain poly-unsaturated fatty acids. FEDIAF Nutritional Guidelines provide recommendations for the minimum amounts of specific fatty acids for the diets of puppies, kittens and during the gestation period. Normally these fatty acids come from fish oils and fish meal products.

However, certain marine microalgae, at the start of the marine food chain, are also naturally rich in these essential fatty acids. Marine algae is the reason why certain fish species are rich sources of these fatty acids in the first place. Marine algae can be used as vegetarian, fish free, sources for these important fatty acids.

