Protein Requirements for Good Nutrition

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Proteins are the building blocks in animal nutrition. They are one of the most important nutrients in the diet and are currently one of the most widely debated. For around twenty thousand years as dogs, and for several million years before that as wolves, the only problem canines had with protein was getting enough of it. Dogs ate a primarily meat diet and with that consumed a high percentage of their diet as protein. With their meat diet they also got a fair portion of fat and a little fiber and carbohydrate thrown in, but primarily they ate meat. Cats were pretty much the same only they were even stricter carnivores and did not eat any carbohydrates.

The discussion about protein started around World War II when commercial dog foods became more available and they began to replace the traditional meat and meat by-product diet. At first, the cheaper forms of leftover meat were put into the food with little regard for flavor or fashion. But with the interest in health as related to diet, a whole new generation of pet foods have entered the market. These quality foods challenge the earlier foods by promoting a product that is better than ever for our pets. At the center of debate for the newer products is protein, its source, digestibility, and quantity. Hopefully this article will answer some of the questions concerning protein in your pet's diet.

Amino acids

Why do cats and dogs need protein? Proteins are necessary for all aspects of growth and development and are very important in structural make up and the immune system. In addition, they are burned as calories and can be converted to and stored as fat.

In reality, our pets do not need the protein but they need the building blocks that make up the protein, amino acids. There are 22 amino acids that animals need. Animals can synthesize 12 of them. The remaining ones must be consumed. The ones that the animals cannot synthesize are called essential amino acids. They are arginine, histidine, isoleucine, leucine, lysine, methionine, phenylalanine, threonine, tryptophan, valine, and in cats, taurine. Dogs can synthesize taurine, and therefore, it is not supplemented in their food. This is why there is the old adage that dogs can eat cat food but cats cannot eat dog food. A deficiency in any of the amino acids can cause health-related problems.

Protein quality

Every protein source contains different levels of amino acids and each protein is different in its ability to be broken down into amino acids. So not all proteins are created equal. Some are better for pets than others. The ability of a protein to be used by the body and its amount of usable amino acids is summarized as protein quality (biological value). Egg has the highest biological value and sets the standard for which other proteins are judged. Egg has a biological value of 100. Fish meal and milk are close behind with a value of 92. Beef is around 78 and soybean meal is 67. "Meat and bone meal" and wheat are around 50 and corn is 45. Things like hair and feathers would be very high in protein but would be down at the bottom of the list for biological value. The actual composition of individual proteins as well as the utilization of amino acids is very detailed and beyond the scope of this article, but in summary, we see that all proteins are not created equal.

Protein requirements

Protein requirements vary from species to species and can vary greatly during the rapid growth stages and for elderly animals with compromised kidneys. I will explain some of the special circumstances that require altered levels of protein but as a rule the following levels apply.

Species and Growth Stage	Recommended Protein %	Recommended Fat %
Kitten	30%	20%
Adult cat	25-30%	15-20%

Pregnant and lactating cats may need to be fed kitten food to give them the necessary protein. Sick, weak, and debilitated animals also need extra protein. Animals with kidney disease may need to be on a protein-restricted, but high biological value diet to lessen the effects of the kidney disease.

Can I feed too much protein?

The answer to this is yes and no. In theory, if a healthy animal eats too much protein, some gets excreted in the urine and the rest just gets used as calories or is converted to fat and does not cause any harm. Protein is the most expensive ingredient in the food and why pay for more than you need. Most pet food companies strike a happy medium and meet the minimum recommended requirements and add a little extra to be safe.

Interpreting the pet food label

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This is where the hard part comes in. You now have two choices. The first is to buy a reputable quality brand of cat food for the activity level of your cat and hope that its needs are being met. This is what most owners do and the average cat does just fine. But if you have a cat with special protein needs or want to search out the best possible food for the money then you must dive into the label and try to interpret it.

If you have been reading so far, you know that not all proteins are created equal. The listing of protein level on the bag or can is not a listing of the percent of digestible protein, just a listing of percent protein. So we need to know how to interpret the pet food label. We know that in quality foods digestibility is between 70 and 80%. In lesser quality foods the digestibility could drop to 60% or less. The way to determine the digestibility is not very scientific but is the best we have until the pet food industry begins to list digestibility. By reading the ingredients and noting the order that they appear we can roughly determine the digestibility. The ingredients are listed in order of weight. If the first ingredient is chicken or lamb or other meat, we can assume it is a good quality protein source. Meat meals such as lamb meal also provide quality protein. "Meat and bone meal" is an ingredient that is less desirable. If grains are listed, they are not as digestible sources of protein and contribute heavily toward the carbohydrate load. Some companies will list a meat source and then three different forms of corn, hiding the fact that the main ingredient is corn but just divided into three different products.

Summary

Protein is a very critical part of your cat's diet. The majority of premium foods do a good job of providing adequate protein sources for the different life cycles of your pet. There are different protein needs for different life cycles so feed the correct one. Read the labels carefully and make sure you are getting what you pay for.

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