



THE NATURAL AUTHORITY™

ON PROTEIN

Introduction

Proteins are essential nutrients used by the body to promote muscle development, aid in tissue repair, provide energy, and support a healthy immune system. During digestion, dietary protein is broken down into amino acids, such as lysine, which in turn are used by the body to synthesize new proteins. Essential amino acids must be provided in the diet because the body cannot make these on its own. Conversely, nonessential amino acids can be made from other amino acids by the body.

All species have unique daily requirements for amino acids. Dogs and cats both require more protein than humans. Cats require more protein in their diet than dogs. Additionally, some physiological conditions such as growth, pregnancy, ageing, and physical activity require more protein than others.

What are the dietary sources for protein?

Not all protein sources are equal when it comes to amino acids. The benefit derived from eating protein depends on the digestibility of the protein and the amino acid profile. Natural sources of protein include:

- **Fresh meat** is highly palatable but has a low protein density due to its high water content.
- **Meat meal** is a highly concentrated protein source that results from cooking away the water and some of the fat from fresh meat.
- **Meat by-product meal** is similar to meat meal, however it may also contain other animal tissues, such as viscera, heads and feet.
- **Dairy proteins** are highly digestible and include sources such as casein or whey protein.
- **Egg protein** is considered the most ideal protein, due to its amino acid profile and digestibility.
- **Plant protein** sources result from removing the starch components of either grains or vegetables to achieve a protein-rich portion.

Why are different protein sources used in pet food?

The amino acid profile of each protein source is considered when formulating complete and balanced natural pet foods.

- **Primary Source → Animal Protein** – Because animal protein sources have more essential amino acids, meat and meat meals are commonly the primary ingredients for natural pet foods. Meat is not only an excellent source of protein, but also an important, highly digestible source of many essential minerals, such as Iron, Zinc, Copper, and Selenium. Other nutrients essential to the cat and beneficial for the dog, like the omega-6 fatty acid Arachidonic Acid and the amino acid Taurine, are found exclusively in products of animal origin.
- **Secondary Source → Vegetable Protein** – Vegetable proteins, like pea protein, corn gluten meal, potato protein and rice gluten, are lower in mineral content than meat-based proteins and compliment the amino acid profile for animal proteins. Plant proteins are used in cat formulas to help achieve the high protein levels cats require without adding excessive mineral content, which can influence urinary tract health. Vegetable proteins are used in puppy formulas to achieve an optimal calcium to phosphorus ratio to help promote the proper rate of development.

All NUTRO® Formulas are based on the principles of natural nutrition described in this article.



Issued: February 16, 2011
Reference # MAC01