

Feline Nutrition: The “Carnivore Connection”

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Have you ever considered the differences between dog food and cat food? Or the differences between what our pet’s ancestors would have eaten, and what we feed them today? There is no species to whom this matters more than our feline friends. Both dogs and cats prefer to eat predominantly meat, but a cat’s physiology is quite different than a dog’s. Cats are considered “obligate carnivores,” meaning they would rely almost exclusively on eating prey, not plants, in their evolutionary setting. Dogs, by contrast, are more omnivorous, and can more readily use both plant and animal sources of nutrition. Cats’ evolutionary past sets them apart in a variety of ways, and this has important consequences for what we should feed them today.

What Wild Cats Eat and Why It Matters

A wild cat’s prey would be predominantly rodents and small birds. These are food sources **high in protein, with moderate levels of fat, and very few carbohydrates**. Cats require two to three times more protein than omnivores, and a kitten’s requirement is even higher. Protein and fat are used as a source of energy, to synthesize new proteins, rebuild cells, and carry out all of a cat’s normal biochemical functions. If a dog is fed a diet low in animal protein, it isn’t a critical problem; dogs, humans, and other omnivorous species can synthesize the proteins they need from plant sources and their metabolism can adapt to what is available. Cats are not able to do this, and illness will result from a severe or long-standing deficiency. It isn’t just the lack of protein that presents a problem; an overabundance of carbohydrates may contribute to obesity, diabetes, osteoarthritis, urinary tract disease, liver disease, and skin conditions.



Cats’ unique nutritional needs do not end with protein. They also have a greater need for a variety of B vitamins, as well as vitamins A and D. Healthy cats rarely run into trouble with this, but a **deficiency can develop quickly if a cat stops eating**.

Prey is also a major source of water for wild carnivores. Cats are evolutionarily a desert species, and as a result they do not readily feel thirsty when they are becoming dehydrated. Research has demonstrated that a cat eating kibble takes in 50% less water in the course of a day than a cat who eats canned food. **Cats who eat predominantly kibble may spend a significant portion of their lives dehydrated**, constantly putting a strain on their kidneys.

So, What Should We Feed?

Pet food companies might have you believe that a “grain-free” diet is a “carb-free” diet, but this is not true. **Carbohydrates are still present in all kibble diets, and in many canned diets too.** A carbohydrate is necessary to form a kibble (trying to make kibble without a carbohydrate source is like trying to make a pancake with only eggs, milk, and oil). So how does the pet food manufacturer manage this? An alternate carbohydrate source such as potato flour will be used. It’s not a grain, but it’s still a carbohydrate! A carbohydrate source will ALWAYS appear somewhere on a dry food ingredient list, but a canned diet can be made truly carb-free. **Paté-style canned foods are typically lower in carbohydrates** compared to chunks-and-gravy style foods.



Will your cat eat canned food? If so, great, even if you find it convenient to still offer kibble at another meal. You can **mix additional water in with her canned food** to make it “soupy” and increase her water intake further. Look on the ingredient list for animal-sourced proteins as the first few ingredients: meat, poultry, fish, eggs, whey, etc.

Do you see something like “poultry by-product” on the label? **“By-product”** earned its unpalatable-sounding name because it consists of parts of animals not typically prepared as human food, such as organ meat (liver, kidney, etc), fat tissue, bone, and viscera. Organ meat in particular represents a rich nutrient source, therefore, “turkey by-product” represents a more concentrated source of nutrition than turkey breast.

The word **“meal”** refers to the how the ingredient is prepared prior to use, in terms of size. The small particle size of a finely-ground meal aids in digestion; turkey meal may be more easily digested than whole turkey.

Do plant sourced ingredients (such as rice, soy protein, wheat or corn gluten, corn starch) feature prominently on a canned food label? They do not need to be there. The lower they are on the ingredient list, the better.

Does your cat prefer kibble? Choose a variety of dry food that most closely matches the needs of an obligate carnivore by selecting one that lists animal-sourced proteins as the first two or three ingredients. Encourage your cat to drink plenty of water by providing multiple water bowls in different locations around the house.



The array of pet foods available may seem endless, and there is no single best food to suit every cat. Food allergies, taste preferences, and lifestyles all come into play. If this article leaves you still wondering exactly what to feed your cat, we hope you will talk to your veterinarian about it at your next appointment. You might also be interested in reading further in our blog: we have also written an article called "[What Should I Feed My Pet?](#)"

References and Further Reading:

The information in this article is based upon "**The Carnivore Connection to Nutrition in Cats,**" by **Debra L Zoran, DVM, PhD, DACVIM.** The original full-text article appeared in the Journal of the American Veterinary Medical Association, Vol 221, No. 11, on December 1, 2002, and can also be found at <http://www.catinfo.org/docs/DrZoran.pdf>.

There is a great deal of additional information at Dr. Zoran's website, www.catinfo.org.

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