

The No. 1 Thing You Need to Know About Feeding Your Cat

Have house cats retained the wisdom of their wild cousins when it comes to fulfilling their daily nutritional requirements? Apparently yes, according to this study. If you are owned by a cat, this may be the most important information you'll ever see about feeding your pet.

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STORY AT-A-GLANCE

- A study on feline nutrition shows that pet cats have the ability to select and combine different types of foods to meet their daily nutritional requirements
- The cats in the study consistently selected combinations of food that provided about 52% protein, 36% fat, and 12% carbohydrates — proportions that are in line with the results of an earlier study that represents the most extensive analysis of macronutrient regulation ever conducted on a carnivore
- When offering dietary variety to your cat (which I highly recommend), it's important to present alternatives to kibble, which doesn't provide the moisture cats require
- It's also important to feed portion-controlled meals rather than free-feeding, since most cats will overeat given the opportunity

In a landmark study published 10 years ago, researchers made the remarkable discovery that domestic cats are able to select and combine different types of commercial cat foods to consistently meet their **nutritional requirements** for macronutrients.

Scientists at the Waltham Centre for Pet Nutrition in England conducted the research in collaboration with scientists from the University of Sydney and the Institute of Natural Sciences at Massey University in New Zealand. The study was published in the December 2012 Journal of Comparative Physiology B.¹

Complex Multi-Phase, Multi-Experiment Study

The study was conducted in four experiments, each involving three phases. Phase 1 lasted seven days, during which all the cats were exposed to all the different foods (three kibble and three **canned formulas**) simultaneously. The goal of phase 1 was to assess how the cats self-selected their nutrition from foods that were unfamiliar to them.

In phase 2 the cats were cycled through eight three-day periods during which they were fed a different pair of wet and dry foods on each of the three days. In this phase, researchers measured the nutrients the cats selected from their food-pair options. Also during this phase, the kitties got more accustomed to the foods.

Phase 3 was a repeat of phase 1, except that now the cats were "experienced" with the foods.

- Experiment 1 involved 18 cats who were fed one canned food and three dry foods in separate bowls during phases 1 and 3. For phase 2, they were fed the wet food paired with one of the dry foods for each three-day cycle.
- In experiment 2, 17 cats were fed one dry food and three wet foods in phases 1 and 3, and the dry food paired with each of the wet foods during the eight three-day cycles.
- Experiment 3 involved 10 of the 18 cats from experiment 1. The kitties were fed three wet and three dry foods in six separate bowls during phases 1 and 3, and three different wet food/dry food pairs in phase 2.
- In experiment 4, the cats were offered a food combination of one wet food and one dry food, similar to what they might be offered at home. The foods contained about the same levels of macronutrients (protein, fat, carbohydrate), and the goal was to determine if different formats of food affected the ability of the cats to appropriately self-select a combination of the two foods that met their nutritional requirements.

Given a Choice, Pet Cats Eat Like Their Wild Cousins

The researchers' conclusion:

"Using nutritional geometry we demonstrate convergence upon the same dietary macronutrient composition in the naïve and experienced self-selection phases of each experiment as well as over the course of the 3-day cycles in the pair-wise choice phase of each experiment. Furthermore, even though the dietary options were very different in each of these experiments the macronutrient composition of the diets achieved across all experiments were remarkably similar.

*"These results indicate that a mammalian **obligate carnivore**, the domestic cat, is able to regulate food selection and intake to balance macronutrient intake despite differences in moisture content and textural properties of the foods provided."*²

Remarkably, the amounts of protein, fat, and carbohydrate the cats in the study self-selected were right in line with the results of a study published in 2011 that represented the most extensive analysis of macronutrient regulation ever conducted on any carnivore.³

The 2011 study showed that cats have a daily dietary macronutrient intake target of 52% protein, 36% fat, and 12% carbs. These percentages are similar to those reported for free-ranging feral cats, who self-select in proportions of 52% protein, 46% fat and 2% carbohydrates.

Cats don't have a biologic requirement for carbs, but it's clear they enjoy eating them, anyway. The study authors suggest the difference in the carbohydrate intake between pet cats and feral cats could be because domestic kitties have evolved to tolerate a higher level of carbs in the diet from their long association with humans. Put another way, since most commercial cat foods in the last 60 years — especially dry formulas — have contained large amounts of carbohydrates, cats' bodies have acquired a level of resilience to the presence of biologically inappropriate ingredients in their diets.

Most importantly, the study indicates that pet cats (when given the opportunity) have somehow retained the ability to regulate their nutritional intake to closely match the natural diet of felines in the wild. And this phenomenon holds true even when kitties are presented with complex combinations of different wet and dry foods.

Take-Home Message for You and Your Cat

One of the study authors and a scientist at Waltham, Dr. Adrian Hewson-Hughes states:

*"This research has important implications for owners as it shows that cats are able to select and combine wet and dry foods to achieve their target intake of protein, fat and carbohydrate. In terms of products currently on the market, wet foods typically have higher proportions of protein and fat, while dry foods have a higher carbohydrate content."*⁴

Waltham is the parent company of Mars Petcare, manufacturer of several large pet food brands including Pedigree, Whiskas and Royal Canin. As such, in addition to conducting pet nutrition studies, the company also has a clear interest in selling their products.

Unfortunately, none of these brands offers more biologically correct, low carb foods. When it comes to macronutrients, cats choose to consume protein and fat first, with carbs coming in last. But after you calculate the amount of starch in your pet's food, you'll find carbs constitute the bulk of it. If you aren't offering a variety of foods rich in meat-based animal protein, cats can't make the best nutrition choices because they aren't given enough low carb options to make good choices.

Since an increasing number of veterinarians and pet owners are also recognizing the tremendous importance of moisture in cats' diets, one could logically conclude that manufacturers of dry cat food, which is much less costly to produce than a reasonably high-quality canned food, are concerned for the future of their kibble products.

However, as my regular readers know, I don't believe dry cat food should be on the menu. One thing the study doesn't address is the critical need for moisture in feline diets. A cat's natural prey is 70% to 80% moisture. Most dry foods are around 12%. Feline bodies are designed to get most of the moisture they need from the food they eat and not from gulping large quantities of water like dogs do. Your cat doesn't have a strong thirst drive compared to other species.

If you want to feed your cat a healthy variety of foods, you can skip or minimize kibble by offering a combination of homemade raw (or gently cooked), commercially available raw, dehydrated or freeze-dried raw, and/or human grade canned. It's crucially important that any diet you feed your pet be nutritionally optimal, species-specific, and made from high quality animal protein sources.

A Word About Portions

While domestic cats have the ability to select the right percentage of protein, fat and carbs when given the option, this doesn't mean they can select the appropriate number of calories they require for their typically sedentary lifestyles.

Animals living in the wild have no opportunity to overeat — in fact, their problem is often the opposite. But pet cats (and dogs) living indoors with their human families are another matter.

Keep in mind that your cat is a natural hunter, and much of the food seeking he does around your house is not driven by hunger, but by his drive to hunt prey.

If you leave "prey" in his bowl, he'll eat it. If you leave too much in his bowl or keep refilling it, he'll eat that, too. He'll keep "hunting" and eating as long as there is food available to him.

All that to say, you must feed portion-controlled meals to your cat, preferably one in the morning and one in the evening. Don't leave it up to her to decide when she's full. And don't indulge her with an all-day, all-she-can-eat buffet. Of course, this is especially true if you're feeding a diet that spoils quickly at room temperature. But even if you're still feeding some kibble, I recommend you offer two portion-controlled meals daily.

Sources and References

^{1,2} [Hewson-Hughes, A.K. et al. Journal of Comparative Physiology B, Volume 183, pages 525–536, December 12, 2012](#)

³ [Hewson-Hughes, A.K. et al. Journal of Experimental Biology \(2011\) 214 \(6\): 1039–1051](#)

⁴ [PetfoodIndustry.com December 19, 2012](#)
