

## **Nutrition for the Adult Cat**

Cats are strict carnivores that rely on nutrients in animal tissues to meet their specific and unique nutritional requirements. In their natural habitat, cats consume prey high in protein with moderate amounts of fat and small amounts of carbohydrates. Thus, they are metabolically adapted for higher metabolism of proteins and lower utilization of carbohydrates than dogs or other omnivores. Although cats can use carbohydrates as a source of metabolic energy, they have limited ability to spare protein utilization by using carbohydrates instead. Therefore, their diet should be comprised of proteins, fats, carbohydrates, vitamins, minerals and water in the correct proportions. A cat food that meets these requirements is called a “Complete” or “Balanced” diet. The amount of food a cat requires depends on the cat’s age, breed, gender, activity, temperament, environment and metabolism.

### **Proteins**

Comprised of 23 different amino acids, proteins are often called the “building blocks” of the tissues. The cat’s body can manufacture 12 of these amino acids. The other 11 amino acids, however, must come from dietary meat and plant sources and are called the “essential amino acids”.

The biological value of a protein is a measure of that protein’s ability to supply amino acids, particularly the 11 essential amino acids, and to supply these amino acids in the proper proportions. In general, animal proteins (meat, by-product meal) have higher biological value than vegetable proteins (soybean meal, corn gluten meal).

Taurine, an amino acid present only in animal tissues, is one of the essential amino acids for cats needed to sustain normal cardiovascular, reproductive, and visual performance. Cats require a dietary source of taurine because they cannot synthesize enough taurine from dietary precursors. Arginine is essential in the feline diet to promote detoxification of nitrogenous waste products.

### **Fats**

Fats are used to supply energy, essential fatty acids and promote absorption of fat-soluble Vitamins A, D, E and K. In addition, fats make a diet more palatable to a cat and help to maintain a healthy skin and haircoat. Compared to dogs, cats require dietary sources of both linoleic acid and arachidonic acid. The requirement of both fatty acids arises from cats’ inability to synthesize arachidonic acid from linoleic acid.

If a cat’s diet is very high in fat it may result in the cat eating excessive amount of energy that may predispose to weight gain and obesity. If the fat becomes rancid, it destroys fat soluble vitamins and also essential fatty acids, leading to deficiencies. Commercial cat foods contain special natural or synthetic additives called “antioxidants” to prevent the loss of these essential nutrients.

## **Carbohydrates**

Carbohydrates provide energy and are made up primarily of sugars, starches and cellulose (fiber). Carbohydrates are supplied in the diet from plant sources such as grains and vegetables. Despite the cat's adaptation to a low-carbohydrate diet, they are very efficient in starch and simple sugar utilization. The starch levels found in commercial cat foods (up to 35% of the food dry matter) are well-tolerated.

## **Vitamins**

Vitamins are necessary for many of the body's chemical reactions. Fat-soluble Vitamins A, D, E and K need fat in the diet to be absorbed by the body. Cats are incapable of converting beta-carotene from vegetables to Vitamin A. Therefore cats require preformed Vitamin A, which is found only in animal tissues. Cats also require more of the B vitamins thiamin and niacin than most species. Vitamin C is not needed in the feline diet because cats can make it themselves. "Complete" and "Balanced" commercial cat foods don't need additional vitamin supplementation for most normal cats.

## **Minerals**

Minerals are needed by the body for structural building and chemical reactions. Like vitamins, minerals are supplied in the correct proportions in "Complete" and "Balanced" commercial cat foods. Damage can be done by over supplementation. This is particularly true for calcium and phosphorus, because the proportions of these two minerals must be supplied to the cat in the proper ratio for nutritional health.

## **Water**

Water is the most important nutrient for all animals. Since cats do not have a strong thirst drive compared to other mammals, it is critical to provide a source of clean and fresh water in various locations at all times. Canned cat food has a water content of at least 75 percent, so it is a good dietary source of water.

## **Feeding a Balanced Diet**

Cats require a diet that regularly includes proteins, fats, carbohydrates, vitamins, minerals and water for proper nutrition. Of equal importance is the balance of these nutrients in the diet. A **commercial cat food** is the most convenient method of ensuring a cat receives these ingredients in correct proportions.

## **Choosing a Commercial Cat Food**

Pet food manufacturers have developed foods that may be safely fed as a cat's sole diet without supplementation. Such foods can be identified by the words "complete and balanced nutrition" on the label. These claims are regulated by federal and state agencies.

The product may be formulated to meet the expected nutritional needs of cats for a given stage of life or the product can be chemically analyzed to be sure all the expected nutrients are present. If these methods are used to justify that claim of "complete and balanced" nutrition, the cat food label should

include a statement that the nutritional adequacy is based on a comparison to known nutritional standards. Look for these words on such products: “Meets the nutritional requirements of cats established by the American Association of Feed Control Officials (AAFCO).”

Alternative and preferred method to verify the nutritional adequacy is through actual feeding trials. While exact wording will vary, pet foods which have been tested in this way should state the following on the label: “Complete and balanced nutrition for cats based on AAFCO feeding trials.” It is best to look for these words when selecting a cat food. Feeding a product that does not have a nutritional claim on the label cannot guarantee a complete and balanced diet for the cat.

Complete and balanced cat foods primarily come in three forms: dry, soft-moist, and canned. All contain the essential nutrients the cat needs – the primary difference is the amount of water in the product. Canned foods are sometimes more palatable, while dry foods are more economical to feed.

After selecting a cat food, the final and most effective evaluation is accomplished by feeding your cat the food and judging the results. If your cat thrives and looks healthy when fed this food exclusively, then this is the best test that can be given in evaluating a cat food.

After selecting a cat food from the dry, semi-moist, or canned varieties that states “complete and balanced nutrition based on AAFCO feeding trials” on the label, it is best not to add any vitamin or mineral supplements or table scraps to the diet. Additional vitamins and minerals may lead to excesses or may unbalance the diet. Only use supplements when they are recommended by your veterinarian.

**Feeding a complete balanced diet with fresh water is what most cats need to stay nutritionally healthy.**

### **Stage-of-Life Commercial Cat Foods**

Many commercial cat foods are designated for particular stages of a cat’s life. Such diets have been developed for groups such as kittens, pregnant and nursing queens, and older cats that may have special nutritional needs. Cats are often considered as being senior at 7-8 years of age and geriatric beginning at 10-12 years of age. Cat foods designated for a particular stage of a cat’s life that are labeled “Complete” or “Balanced” will fulfill the specific nutritional requirements.

### **Feeding Management and Monitoring**

A new food should be selected for the stage-of-life (adult, senior), activity level and current body condition (lean, obese-prone) of the cat. Food selected should also have passed AAFCO feeding trials for adult cats. Some commercial cat foods are designated as “all-purpose” foods on the label. These products must provide adequate nutrients to support the most demanding life stages (growth, lactation). Thus, all-purpose foods may not be appropriate for adult, geriatric cats and obese-prone cats due to the excessive levels of certain nutrients and energy.

The best way to determine how much to feed is to first estimate the cat’s energy needs and then calculate the amount of cat food that must be fed to meet that need. Another way to determine the amount to feed is to use guidelines included on the commercial pet food label. These guidelines usually provide estimates of the quantity to feed for several different ranges in body size. Such instructions

provide only a rough estimate that can be used as a starting point when first feeding a particular brand food. **Adjustments in these estimates should be made based on the individual animal and on the animal's response to feeding.** If the cat starts gaining too much weight (BCS of >5/9), contact your veterinarian to get the guidelines for caloric restriction. Just as in humans, obesity in cats is a problem, and causes many of the same health concerns.

Adult cats may be fed meal fed, free-choice fed or fed using a combination of methods. Most obese-prone cats should be fed a measured quantity (measuring cup) of food; however, some cats can be fed low-calorie foods free choice. Most cats tolerate once daily feeding with no problem; however, meal feeding at least twice daily is preferred. Cats should be allowed one to two hours to complete a measured meal; many cats will return for several small feedings before finishing the entire offering. Food should be available at all times for underweight cats to encourage sufficient food intake. Clean drinking water should be continuously available.

Food and water bowls should be cleaned regularly with warm soapy water and rinsed well. Pans used for moist foods need daily cleaning, whereas dry food feeders should be cleaned at least weekly. Many cats prefer shallow dishes, especially "flat-faced" breeds such as Persians.

Cats provided proper nutrition are healthy and alert, have ideal body condition (5/9), stable weight and have a clean, glossy coat. The body condition and body weight should be evaluated every two to four weeks. Stools should be evaluated regularly because changes in frequency or character may signify nutritional problems or disease. Normal stools should be firm, well-formed and medium to dark brown.

### **Changing diets**

Rapid changes in the food or feeding method can cause gastrointestinal upsets or food refusal. Transition to a new food over four to seven days may be required. To change to a new food, replace 25% of the old food with the new food on Day 1 and continue this incremental change daily until the change is complete on Day 4.

### **Food Storage**

Unused portions of canned food should be refrigerated, to maintain quality and prevent spoilage until the next feeding. To prevent possible digestion problems related to temperature differences, refrigerated food should be brought to room temperature before it is offered to the cat.

Dry food should be stored in a cool, dry location, and used within 6 months of purchase. Lengthy storage decreases the activity and potency of many vitamins. Storing dry food in an airtight container will prevent further nutrient deterioration and help maintain palatability.

### **Special Diets**

A number of companies produce special diets, which have been scientifically formulated for cats with specific diseases or conditions. These products include diets for cats with urolithiasis (stones), heart disease, kidney disease, obesity, digestive disturbances, suspected food allergy problems and other conditions. Such specialized foods should only be used under the supervision of your veterinarian.

## **Homemade Diets**

There is no objection to feeding a cat a homemade diet. However, if a homemade diet is used, it should be prepared from recipes that are nutritionally complete and balanced by experienced nutritionist. Feeding single food items or diets consisting of an indiscriminate mixture of human foods often results in dietary-induced disease.

## **Precautions of Non-Commercial Foods**

Raw meat: Raw meat is potential source of parasites and pathogenic bacteria for the cat and the owner.

Eggs: Eggs are an excellent source of protein. However, raw eggs contain an enzyme called avidin, which decreases the absorption of biotin (B vitamin). This can lead to skin and hair coat problems. Raw eggs may also contain *Salmonella*.

Raw fish: Can result in a [thiamine \(a B vitamin\)](#) deficiency leading to loss of appetite, seizures, and in severe cases, death.

Milk: Some adult cats do not have sufficient amounts of the enzyme lactase, which breaks down the lactose in milk. This can result in diarrhea.

Liver: Liver contains high biological value protein, fats, carbohydrates, minerals and vitamins. However, raw liver is a potential source of parasites and pathogenic bacteria.

Onions, garlic, chocolate, coffee, tea, raisins and grapes are potential toxins in the cat if eaten in large quantities.

## **Avoid these common feeding errors**

1. Overfeeding can lead to the number-one nutritional disease, obesity. Excessive body weight can increase the risk of liver disease, heart disease, respiratory problems, and constipation. Furthermore, obese cats are at greater risk of developing diabetes and arthritis.
2. Feeding dog food to cats is a common error, especially if dogs and cats are in the same household. Dog foods are developed for the nutritional needs of dogs, not cats. There can be serious consequences if a cat's diet is deficient in protein, taurine, niacin, vitamin A, and fatty acids.
3. Overdosing with vitamin and mineral supplements has been known to cause severe medical problems in cats.
4. Exclusively feeding meat or fish results in an unbalanced diet and causes related nutritional diseases. Diets containing large quantities of fish can cause yellow-fat disease (steatitis), a result of vitamin E deficiency. Nutritional secondary hyperparathyroidism is usually caused by all-meat, homemade diets that are deficient in calcium, thus creating a mineral imbalance in the calcium-phosphorus ratio. The disease most commonly occurs in kittens that are rapidly growing.