



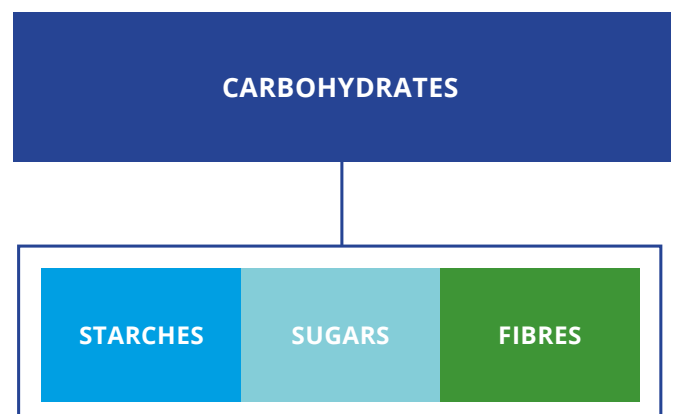
The Science of Pet Food: Role of Carbohydrate



What are dietary carbohydrates?

Carbohydrates (starches, sugars, and fibres) are one of the major nutrient groups in pet food, alongside proteins, fats, and minerals. Although they are not considered essential nutrients for dogs or cats, carbohydrates provide energy (calories) and support digestive health, and play a key role in the texture of dry pet foods and some wet foods.

Carbohydrates are made from simple building blocks called **monosaccharides**. These form **disaccharides** (such as sucrose, lactose, and maltose) and **polysaccharides** (such as starch and fibres). The way these building blocks are linked determines whether pets can digest them (starches and sugars) or not (fibres).



For more information about the nutritional needs of cats and dogs, please refer to this [GAPFA factsheet](#).

In some countries, due to changes in regulations, pet food labels may list **total carbohydrate** and **dietary fibre**, replacing **crude fibre**. This factsheet explains what carbohydrates and their component parts are, and their nutritional benefits for pets.



What are the main sources of carbohydrates in pet food?

Starch is the primary carbohydrate in pet food. Common sources include cereals (grains like corn, rice, and wheat), legumes (like soybeans, peas, and lentils), and root vegetables (like potato and cassava). Proper cooking of starch is important to improve digestibility and nutrient utilisation and to help reduce the risk of gastrointestinal upset.

Fibres are carbohydrates that are not digested by pets and come from ingredients such as whole grains, purified cellulose, beet pulp, chicory pulp, psyllium, fruit and vegetable fibres, inulin, pectin, among others.



What are the role and benefits of digestible carbohydrates for pets and in pet foods?

While carbohydrates are not essential nutrients, they **play a beneficial role** in the diet of both dogs and cats. Dogs and cats are capable of digesting starch, and research shows that early ancestors of modern dogs evolved to thrive on diets containing more starch.

An exception is the milk sugar, **lactose**, which many adult dogs and cats are unable to digest efficiently after puppyhood and kittenhood, potentially causing gastrointestinal upsets.

Digestible carbohydrates provide an important source of energy (calories) in the form of **glucose**, the preferred fuel for tissues such as the brain and red blood cells. When carbohydrates are limited, glucose can also be produced from proteins and fats.

Starch is also essential in **dry kibble manufacturing**, as it contributes to the formation of the familiar crunchy texture. More information on how pet food is made can be found [here](#).

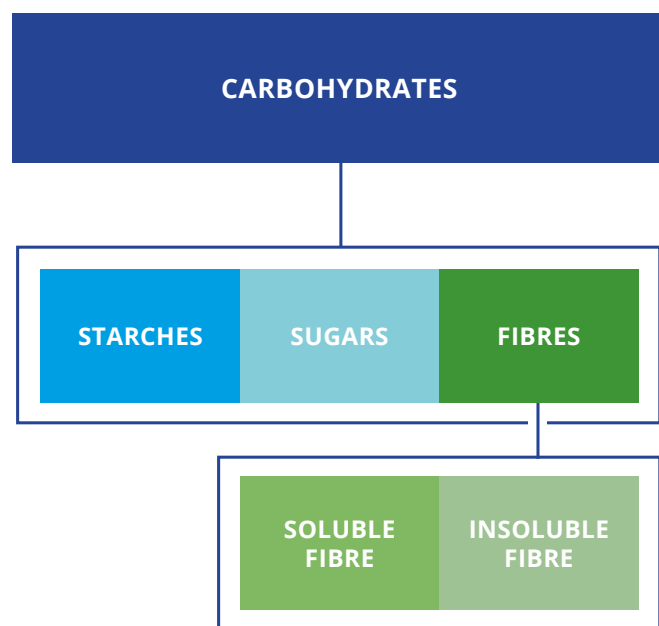


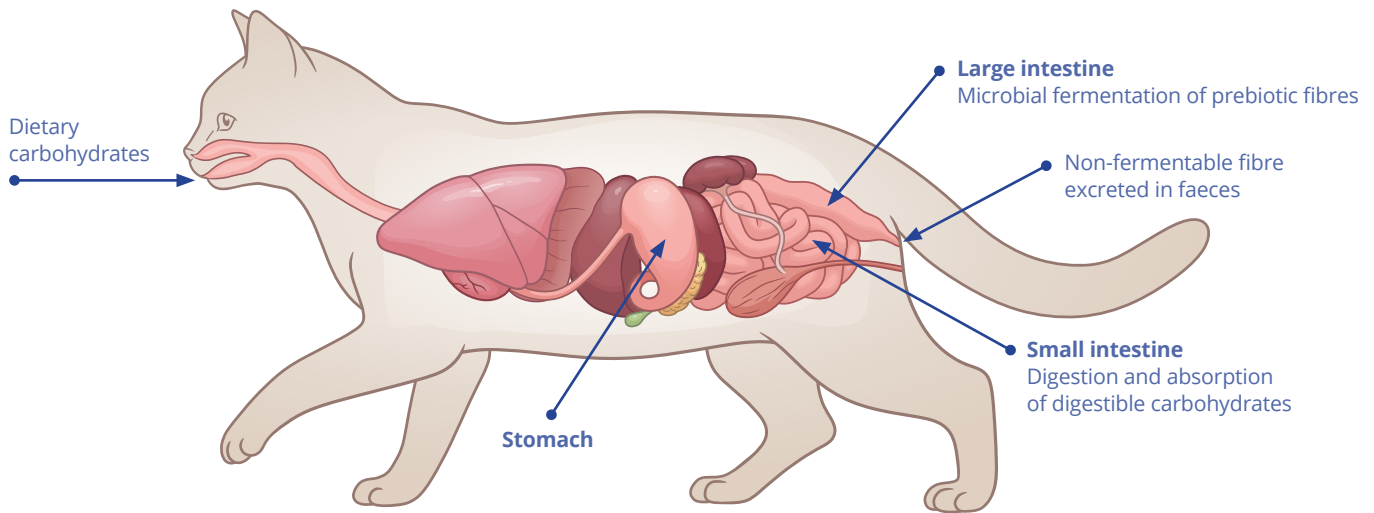
What about fibre?

Like digestible carbohydrates, fibre is not considered an essential nutrient, but it offers **multiple benefits** related to gut health, stool quality, weight management, prebiotic benefit, and hairball control in cats. Fibre is a highly diverse group of substances, and different types provide different benefits:

Soluble fibres can serve as prebiotics and food for the intestinal microbiome, and they can also help the pet to feel satiety and manage weight. The compounds produced during the fermentation of prebiotic fibres help support the health of the large intestine.

Insoluble fibres (non-fermentable) help regulate stool formation, aid in weight control, and support hairball management (particularly in cats).





Most commercial pet foods include a **blend** of soluble and insoluble fibres to deliver a broad range of benefits. The proportion may vary based on the pet's needs.

For example: Pets that need to lose or control weight benefit from weight-loss diets containing insoluble and soluble fibres to lower calorie intake and increase satiety respectively.

Cats might need a food that helps manage hairballs and typically will have higher levels of insoluble fibres to help hair move through the digestive tract.

How are carbohydrates reported on the pet food label?

Regulatory agencies establish pet food labeling requirements, including how nutrients must be reported. Your country might have regulations that are more similar to Europe (European Union regulation) or United States (AAFCO Model Regulations). For example, in the **European Union** mandatory information listed under 'analytical constituents' includes protein (or crude protein), fat (or crude fat), inorganic matter (crude ash), and crude fibre, expressed as grams per 100 grams of food (percent), **but not 'carbohydrates' or dietary fiber.**

Differently, in the **United States** and other regions following the AAFCO Model Regulations, label requirements are changing. Pet parents are accustomed to seeing crude protein, crude fat, crude fibre, and moisture. Under the updated system, labels

will list **protein, fat, total carbohydrate, dietary fibre, and moisture.** These updates aim to provide clearer, more useful information for consumers and veterinary professionals. Full implementation in the U.S. is planned for 2030.

Due to the transition from reporting crude fibre to the more complete measure of dietary fibre, the amount of fibre declared will be higher. **Dietary Fibre** captures a broader range of fibre components as compared to **crude fibre.**

Despite changes in terminology and labelling, **the pet foods themselves are not changing, remaining safe and nutritious.** These updates simply offer clearer information while maintaining the same rigorous standards of nutrition and quality.



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