PROCESSED WITH PURPOSE

Understanding Pet Food Processing Methods and their Applications

Pet food, as a commercial product, has a long history and has evolved significantly since the first mass-produced products in the 19th century. With growing demand for convenience and advance nutrition, manufacturers have developed various methods to produce pet food. From traditional techniques like extrusion and canning to innovative methods like freeze-drying, pet owners now have a wide range of products to choose from. This factsheet explores these processing methods, with the aim to educate on their benefits, safety and effectiveness and allow pet owners to make informed decisions about their pet's diet.

PROCESSING IN PET FOOD AND HUMAN FOOD: SIMILARITIES AND DIFFERENCES

Processing plays a crucial role in both pet food and human food and serves different purposes and outcomes. In pet food, a degree of processing is essential for creating diets that are safe, and nutritionally complete and balanced. These foods are designed to be reliably fed as the primary source of energy and nutrients for the species and life stage they are intended for. Pet food processing methods help to:

- **Enhance Nutrient Availability:** Cooking and processing can make certain nutrients more digestible for pets.
- **Ensure Food Safety:** Processes eliminate harmful pathogens, ensuring the food is safe to consume.
- **Extend Shelf Life:** Techniques like canning and extrusion increase the shelf life without the need for additional preservatives.
- **Formulate Balanced Diets:** Processing allows for precise formulation to meet the dietary requirements of pets at different life stages.
- **Consistent Quality:** Many processed foods provide consistent quality, palatability, and appearance.

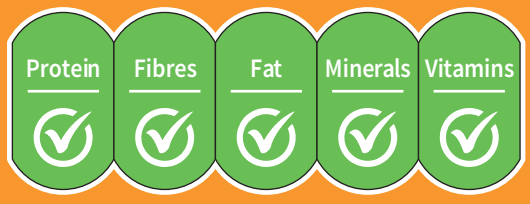
In both human nutrition and pet food, processing involves the addition of ingredients and the application of techniques such as chopping, cooking, or freezing to transform fresh food into products that are more convenient and have a longer shelf life.

However, unlike pet food, processed human foods are generally not intended to be 'complete' diets. This is why people are advised to follow a varied diet and include a range of foods and products to achieve an overall balanced intake of nutrients. Due to processing methods and the addition of nutrients to make complete products, pet food has been compared to 'ultra-processed' foods (UPF) in human nutrition. However, there is no evidence linking any format of complete pet foods to the adverse effects seen with overconsumption of some UPFs, such as processed meat and sweetened soft drinks, which are found in human diets.

WHAT IS 'COMPLETE' PET FOOD?

In pet food, 'complete' has a legal definition, meaning the product provides all the nutrients to meet a pet's nutritional requirements when fed as directed.

If there was a traffic light system for complete pet food, similar to the color-coded system in human food, to indicate the nutritional value of the product, everything would be green.



Many complete products go above and beyond the required nutrients and will include additional ingredients for added health benefits.

FURTHER INFORMATION ON PET NUTRITION CAN BE FOUND AT WWW.UKPETFOOD.ORG

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EXAMPLES OF PROCESSING METHODS IN PET FOOD

The ingredients used in pet food are high quality and carefully selected and compliant with pet food legislation*. Animal-based ingredients come from animals that have been passed as fit for human consumption regardless of the pet food format they will be used in.

Pet food ingredients are prepared and processed in many ways such as **mixing, blending, grinding**, and **mincing** often prior to various cooking processes like **extrusion, baking, canning**, or **pasteurisation**. Other methods used to reduce the microbial risks are **Freeze-drying, air-drying**, or **cold-pressed pelleting**. Finally **packaging** is an important process that helps prevent damage, contamination, and exposure to environmental factors (such as moisture, light, and oxygen) that could spoil the product. The combination of these processes, highlighted in bold, ensures a product remains safe, palatable, and nutritionally appropriate until it reaches the consumer. More information about each processing method is available on this factsheet's webpage.

WHAT ARE PROCESSING BY-PRODUCTS?

The Maillard reaction, a natural process that occurs in all cooked foods, is responsible for the browning and rich flavours we associate with roasted, grilled, or baked food items. During the processing of pet food, particularly when high heat is involved, certain compounds known as processing by-products can form. These by-products result from processes like cooking, sterilisation, or chemical preservation, which are crucial steps to ensure nutritional quality and avoid spoilage during shelf life. Some of these compounds, such as Advanced Glycation End-products (AGEs, sometimes referred to as glycotoxins), naturally occur in both human and animal bodies, and are also produced during everyday cooking, such as when toasting bread or grilling meat. Scientific research and safety evaluations are routinely conducted on pet food, and current evidence shows no direct links between AGEs, at the levels found in processed pet food, and adverse health effects in companion animals.

When formulating a diet, pet nutritionists meticulously account for nutrient losses that may occur due to temperatures or other processing effects. They ensure that each recipe contains the correct proportions of ingredients to meet the nutritional needs of the animal, not only in the finished product but also throughout its shelf life. This attention to detail guarantees that pets receive a complete and balanced diet, regardless of the processing method.

All processed pet foods are subject to stringent safety and quality regulations. As with any form of pet food, it is important to choose a balanced and complete diet that provides all the essential nutrients that your pet needs to maintain good health and is appropriate for their age, size and activity level. Additionally, it's always a good idea to consult with a veterinarian to determine the best diet for your pet's individual requirements.

You may also be interested in the following factsheets from UK Pet Food:

- Dietary Formats & Definitions For Small Mammals
- Dry Pet Food Myth Busting
- The Different Pet Food Formats

All UK Pet Food's Educational Factsheets and Posters are available on our website www.ukpetfood.org

*For more information on Pet Food Legislation please visit our website.

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