



## Food processing – What it Is and Why it Matters

### *What is food processing?*

Processed foods are a vital part of the food supply and essential to delivering safe, nutritious, affordable and sustainable diets.

Processed foods have been a part of everyday life for people around the world since ancient times when fire cooking was discovered. Even in ancient times, people used processing techniques, such as drying, smoking and salting to make food edible, safe and available.

A processed food is simply described as any food that has been altered from its raw state. What is perhaps not widely understood, particularly among consumers, is that most foods, even fresh fruits and vegetables, are “processed” to some degree, before they are consumed.

Food processing is any method used to transform a raw food or ingredient into a food product.<sup>1</sup> Processing, whether it is at home or on an industrial scale, involves all stages of food preparation from the production of a raw ingredient to the final product. It includes a broad range of activities - from simple techniques such as peeling, chopping and cooking to more advanced techniques such as pasteurization, extrusion and fermentation.

Food processing may also require the addition of components such as additives to maintain or improve food safety, freshness, taste, texture, aroma or appearance. Food additives used in the food supply are highly regulated ingredients and their safety is regularly assessed and monitored by leading food safety authorities such as the European Food Safety Authority (EFSA), the U.S. Food & Drug Administration and the Joint FAO/WHO Expert Committee on Food Additives (JECFA). The use of additives helps to ensure the safety and freshness (preservatives), taste (sweeteners), texture (emulsifiers, stabilizers and thickeners) and appearance (colours) of foods. Furthermore, the extension of shelf-life and consequently, the reduction of waste has a positive effect on environmental preservation and sustainability and can help to reduce the overall impact of food processing.

### *The benefits of food processing*

Food safety is a priority. Formulations and processing techniques are scientifically developed and designed to deliver food that is safe, eliminating or preventing the presence or growth of any harmful chemical contaminants and micro-organisms that could cause food-borne illnesses. Manufacturers maintain comprehensive food safety standards which cover the entire supply chain, from sourcing

through to packaging and transportation and follow all applicable regulations issued by regulatory authorities.

In addition to ensuring food is safe to consume, food processing ensures food is edible and palatable; extends shelf-life, delaying food spoilage and reducing food waste; and provides access, regardless of economic status, to affordable and convenient products.

Access to food is one of the biggest challenges we face globally, with some areas being deprived of even basic foods. Processing techniques to preserve and store foods helps to improve food security by increasing the availability and stability of the food supply across seasons and geographic regions <sup>2</sup> and can help to alleviate malnutrition due to poor food distribution. <sup>3</sup>

Processing can restore the nutrient content lost during harvesting and processing; improve the nutritional profile of foods and beverages by reducing fat, particularly saturated fat, sugar and salt and increase the content of essential nutrients and food groups of need (e.g., fruits, vegetables, grains, protein and dairy) to support the incorporation of healthier, nutrient-dense products into diets.

Food fortification is a processing technique widely recognized as an impactful and cost-effective nutrition intervention, contributing essential nutrients to help prevent deficiencies and their associated health problems in certain populations. <sup>4</sup> For example, infant cereals fortified with iron and vitamin B to help prevent anaemia; <sup>5</sup> milk and juices fortified with calcium and vitamin D for proper bone development and the prevention of rickets; <sup>6</sup> iodine added to salt for the prevention of goitre; <sup>7</sup> and fortification of wheat flour with folic acid to help prevent neural tube defects. <sup>8</sup> Currently, over 140 countries globally have guidance or regulations in place for fortification programmes. <sup>9</sup>

Processing can enhance the availability of foods and beverages to support health and well-being of consumers with specialized nutrition products, e.g. for people with allergies or intolerances to eat a balanced and varied diet; incorporating functional ingredients, such as fibre, and pre- and pro-biotics to enhance gut health <sup>10</sup> or antioxidants and other bioactive compounds to help reduce oxidative stress and its associated diseases <sup>11</sup>; and producing age-specific products for infants to improve growth and development through to seniors to support healthy ageing; and improve fitness and well-being.

Processed foods can help consumers make achieving a healthier diet more feasible by reducing the investment of energy, time or cooking skills needed for meal planning and food preparation and by providing quick and portable options that are also nutritious, affordable, available and of high quality.

Sustainable food processing can contribute to environmental sustainability. . In many cases, the efficiencies of food manufacturing and processing at scale make it more environmentally friendly using less energy, water and generating less waste than preparing food at home. <sup>12</sup>

April 2024

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<sup>1</sup> Institute of Food Technologists.

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