

# Health & Nutrition Sciences

## How the Food in Your Pantry Is Made

Open your pantry, peek inside your fridge, sift through your freezer. Notice that most of the ingredients used in modern home cooking leverage innovative food processing techniques. These techniques offer benefits to the food you eat, including unique taste, food safety, extended shelf life, and nutrition.



### WHAT IS A PROCESSED FOOD?

Processed foods and beverages may be defined as any food or beverage that has been altered from its natural state.<sup>1</sup>

The most widely used methods of processing foods:

#### FERMENTATION

Fermentation is a natural process through which microorganisms, like yeast and bacteria, convert carbs, such as starch and sugar, into alcohol or acids.

##### Value of fermentation:

Fermentation creates compounds, such as organic acids, that contribute to flavor, aroma, texture, or shelf life. The organic acids produced during fermentation act as natural preservatives and give fermented foods a distinct zest.<sup>2</sup>



##### Products in your home kitchen:

*Yogurt, sourdough, cider vinegar, sauerkraut*



##### Products in your home kitchen:

*Milk, yogurt, fruit juices, eggs*

#### PASTEURIZATION

Pasteurization is the process by which heat is applied to food and beverages to reduce pathogens and extend shelf life without major changes to the chemistry of the food. This process can be applied to both packaged and unpackaged foods.<sup>3</sup>

##### Value of pasteurization:

Pasteurization reduces pathogens and inactivates spoilage enzymes, increasing food safety and the shelf life of foods.<sup>3</sup>

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## MILLING

Milling is the process of cleaning, and grinding grains to be made into flour, pasta, cereal, oatmeal and snack foods. Types of grains that are often milled include wheat, corn, and oats.<sup>4</sup>

### Value of milling:

During milling, the inedible, fibrous protective cover surrounding the kernel is removed. This allows for the grain to be ready to eat and shortens cooking time.



### Products in your home kitchen:

*Wheat and corn flours, oats, snack foods*



### Products in your home kitchen:

*Breakfast cereals, yogurt, milk & milk alternatives, enriched breads*

## FORTIFICATION

Fortification is the practice of adding nutrients such as vitamins, minerals, or protein to foods.<sup>5</sup>

### Value of fortification:

Fortified foods have helped to reduce rates of nutrient deficiency-related illnesses. For example, since folic acid fortification in enriched grain products was made a requirement in 1998, there has been a 46% reduction in neural tube defects.<sup>6</sup>

Nutrients commonly added to fortified foods include: Folic acid, Vitamins A, B6, B12, C, E, D, Calcium, Iron and Iodine.

## DEHYDRATION

Dehydration is the process of using energy to reduce moisture in the food. Most commonly, heat is added to the food by hot air or other gas, which carries moisture away from the food.<sup>7</sup>

### Value of dehydration:

Dehydration works to preserve food by lowering the water activity, preventing the growth of microorganisms. Most of the nutritional value of the food, including protein, fiber and minerals, is retained.



### Products in your home kitchen:

*Dried fruit, Instant coffee powder, instant potato flakes*

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