

Food Fortification Process and its Products

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Commentary

Received: 28-Jul -2022, Manuscript No. JFPDT-22-72269; **Editor assigned:** 03-Aug-2022, Pre QC No. JFPDT-22-72269 (PQ); **Reviewed:** 16-Aug-2022, QC No. JFPDT-22-72269; **Revised:** 23-Aug-2022, Manuscript No. JFPDT-22-72269 (A); **Published:** 30-Aug-2022, DOI: 10.4172/2321-6204.10.4.002

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ABOUT THE STUDY

The process of adding micronutrients, vitamins and important trace elements to food is known as food fortification or enrichment. It can be implemented by food producers or by administrations as a public health initiative with the goal of lowering the population's rate of dietary deficiencies. The soil in an area may be deficient in certain nutrients, or the staple foods themselves may be deficient in certain elements. In these situations, adding micronutrients to staples and condiments might help prevent widespread deficiency disorders.

The World Health Organization (WHO) and the Food and Agricultural Organization of the United Nations (FAO) define fortification as "the practitioners of intentionally increasing the content of an essential micronutrient, i.e. vitamins and minerals including trace elements in a food, to improve the nutritional quality of the food supply and to provide a public health benefit with minimal risk to health," while enrichment is "synonymous with fortification."

The WHO and FAO have identified food fortification as the second of four strategies to start reducing the prevalence of nutritional deficiencies on a worldwide scale. The most often fortified foods, according to the FAO, include cereals and products made from cereals, milk and dairy products, fats and oils, accompanimentary food items, tea and other beverages. Inadequate nutrition and nutrient intake are thought to be the cause of between 3 to 5 million deaths annually worldwide.

Around the world, a lot of foods and drinks have been fortified, either voluntarily by the product producers or by regulation. Although some would see these additions as clever marketing ploys to promote their product, a lot of work must go into a product before it can simply be strengthened. It must first be established that adding this vitamin or mineral to a product is safe, helpful to health, and an efficient means of delivery. The addition must also follow all food and labeling laws and be justified in terms of nutrition. From the perspective of a food developer, they also need to think about the price of this new product and if the market would sustain the change.

The Food Fortification Initiative provides a list of all nations having fortification programmes, together with information about which nutrients are added to which foods there and whether the programmes are optional or required. There are vitamin augmentation programmes for folate, niacin, riboflavin, thiamine, vitamin A, vitamin B₆, vitamin B₁₂, vitamin D, and vitamin E in one or more nations. Programs for adding minerals including calcium, fluoride, iodine, iron, selenium, and zinc are among them. Wheat flour is the most popular fortified food, whereas folate is the most widely used fortified vitamin. Examples of fortified meals and drinks include:

1. Iodized salt
2. Folate
3. Niacin

Iodized salt: The leading contributor to avoidable mental retardation is Iodine Deficiency Disease (IDD). Cretinism, stillbirth, and miscarriage are all results of severe deficits. However, even a slight shortfall can have a substantial impact on a population's capacity for learning.

Folate: Folate as a fortification component, folic acid aids in the formation of red blood cells, healthy cell development and division, and the prevention of neural tube defects in addition to lowering blood homocysteine levels.

Niacin: Bread has been fortified with niacin, a kind of vitamin B₃ that has significantly decreased the prevalence of pellagra. Pellagra was prevalent in low-income households that mostly consumed maize for food. Although maize does contain niacin, it cannot be absorbed into the body unless it is subjected to nixtamalization, an alkaline procedure that is common in Native American cultures. As a result, corn was not adding to the population's overall niacin consumption.