OPEN ACCESS Freely available online

ISSN: 2157-7110
Journal of Food Processing & Technology

Opinion Article

# Food Fortification and Their Essential Applications

**Akira Ohkoshi***

*Department of Nutrition and Health Science, Arba Minch University, Arbaminch, Ethiopia*

## DESCRIPTION

The process of adding micronutrients (essential trace elements and vitamins) to food is known as food fortification or enrichment. Food manufacturers can do it, or governments can do it as part of a public health policy to lower the number of persons with nutritional deficiencies in a population. It's an attempted method for enhancing diets and avoiding and treating micronutrient malnutrition that would also be safe and economical. Because of the local soil or intrinsic inadequacies in staple foods, a region's typical diet may be deficient in some nutrients; adding micronutrients to staples and condiments might help prevent large-scale deficiency disorders in these circumstances.

Fortification is defined as "The practicing of intentionally increasing the content of an essential micronutrient, such as vitamins and minerals (including vitamins and minerals) in a food, to improve the nutritional quality of the food supply and to provide a public health benefit with minimal risk to health. According to the World Health Organization (WHO) and the Food and Agricultural Organization of the United Nations (FAO), whereas enrichment is defined as "synonymous with fortification."

Deficiencies in one or more micronutrients, such as iron, zinc, and vitamin A, are common in low- and middle-income nations, endangering millions of people's intellectual functioning. Food fortification is a moderate method with proven health, economic, and social advantages. Despite ongoing debates about the effectiveness and safety of food fortification in some countries and around the world, the exercise has significant benefits across all of the main vehicles for food fortification (giant food fortification, bio fortification, and point-of-use or home fortification), ranging from reducing the prevalence of nutritional deficiencies to economic and societal benefits. Cereals and cereal-based products, milk and dairy products, fats and oils, auxiliary food items, tea and other beverages, and newborn formulae are the most commonly fortified foods. Globally, under nutrition and nutritionalinsufficiency are projected to kill between 3 and 5 million people each year.

Food fortification could also be achieved by implementing private sector expertise to create and distribute fortified foods. The procedure by which a food company chooses to add one or more micronutrients to processed foods in accordance with government laws and standards is known as voluntary fortification. Olam, a company based in Ghana, fortifies long-grain rice with micronutrients such as iron, zinc, and B-complex vitamins, giving more than 25% of the recommended dietary requirement per serving. Voluntary fortification activities in India and Kenya sparked more comprehensive legislation and a favorable environment.

The strategy of growing food crops to boost their nutritional content is known as bio fortification. Plant breeding and agronomic (mineral fertilizer) bio fortification efforts mostly focus on increasing iron, zinc, and provitamin A carotenoid levels in various food crops; however, some projects have also bio fortified with amino acids and protein. Bio fortification techniques include iron bio fortification of rice, beans, maize, and sweet potato, zinc bio fortification of wheat, rice, beans, sweet potato, and corn, and Vitamin A bio fortification of sweet potatoes, corn, and cassava. Orange Sweet Potatoes (OSP) were introduced to farmers, which boosted vitamin A intake among women of reproductive age and children, as well as enhanced vitamin A intake overall (with long-term impacts on vitamin A intake). Multiple micronutrient deficits are common in staple crop diets (tubers and cereals), but bio fortification can improve a crop's nutritional value utilizing traditional breeding and agronomic bio fortification procedures. Bio fortification *via* genetic engineering, which allows for the simultaneous introduction of numerous micronutrients in a single crop, could, on the other hand, encourage higher levels of nutrient absorption.

In summary, Food fortification is a low-cost technique that has the potential to reduce worldwide malnutrition. Food fortification studies have produced beneficial outcomes not just in terms of controlling and preventing micronutrientdeficiencies in vulnerable groups, particularly women and children, but also in terms of social, economic, and environmental factors.

**Correspondence to:** Akira Ohkoshi, Department of Nutrition and Health Science, Arba Minch University, Arbaminch, Ethiopia, E-mail: ohkoshi.akira@gmail.com

**Received:** 02-Mar-2022, Manuscript No.JFPT-22-16298; **Editor assigned:** 04-Mar-2022, PreQC No. JFPT-22-16298 (PQ); **Reviewed:** 18-Mar-2022, QC No JFPT-22-16298; **Revised:** 25-Mar-2022, Manuscript No. JFPT-22-16298 (R); **Published:** 02-Apr-2022. DOI: 10.4172/2157-7110.22.13.923

**Citation:** Ohkoshi A (2022) Food Fortification and Their Essential Applications. J Food Process Technol. 13:923.