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**Assignment**

Question

1. List and explain the types of food fortification
2. Enumerate five advantages and disadvantages of food fortification

Answers

1. List and explain the types of food fortification

Firstly: Food fortification or enrichment is the process of adding micronutrients (essential trace elements and vitamins) to food.

Types of food fortification include;

1. Commercial and industrial fortification (wheat flour, corn meal, cooking oils)
2. Biofortification (breeding crops to increase their nutritional value, which can include both conventional selective breeding, and genetic engineering)
3. Home fortification (example: vitamin D drops)
4. Commercial and industrial fortification:

Industrial food fortification or commercial fortification refers to adding micronutrients and minerals to industrially process and widely consumed edible products Common fortified foods, for example, include salt; wheat and maize flours; edible oils; and sugar, but can also include bouillon cubes or soy sauce. Foods fortified with iron will likely have the highest impact on anaemia, although foods fortified with other nutrients, such as vitamin A and folic acid, may also be important. One advantage of industrial food fortification is that it requires limited changes in consumer behaviour compared to other micronutrient interventions.

1. Biofortification:

Biofortification is the process by which the nutritional quality of food crops is improved through agronomic practices, conventional plant breeding, or modern biotechnology. Biofortification differs from conventional fortification in that biofortification aims to increase nutrient levels in crops during plant growth rather than through manual means during processing of the crops. Biofortification may therefore present a way to reach populations where supplementation and conventional fortification activities may be difficult to implement and/or limited.

1. Home fortification:

Home fortification is an innovation aimed at improving diet quality of nutritionally vulnerable groups, such as young children. The term Micronutrient Powders (MNP) refers to sachets containing dry powder with micronutrients that can be added to any semi-solid or solid food that is ready for consumption.

1. Enumerate five advantages and disadvantages of food fortification
2. Advantages of food fortification:
3. Fortification is one of the most cost effective strategies that can be implemented on a larger scale since the cost of fortification is generally less than other techniques to address nutrition deficiencies.
4. Fortified foods are considered to be better at lowering the risk of multiple deficiencies that can result from seasonal deficits in the food supply or a poor quality diet.
5. Fortification does not require any behaviour modification or compliance that is expected in supplementation. It does not require a change in the individual&#39;s food habits and consumption pattern.
6. The quantity of micronutrients added to the food product is small and well regulated, and so the likelihood of an overdose of nutrients is unlikely.
7. Fortification is planned in such a way that the intrinsic characteristics of the food are not altered, such as the taste, the appearance and the texture.
8. Disadvantages of food fortification:
9. Population groups who consume relatively small amounts of food, such as infants, young children and the elderly are less likely to benefit from the consumption of fortified foods.
10. Individuals in the community who cannot afford to buy the staples or are dependent on government’s PDS system for their staples may not get benefitted via normal food fortification plans. For such populations, fortified staples must be circulated to them via the PDS system.
11. Fortified foods have some added micronutrients. Many researchers believe that dietary diversity is a better approach to attain the nutrient requirements in a natural manner.
12. There are technological issues relating to food fortification, especially with regard to appropriate levels of nutrients, stability of fortificants, nutrient interactions, physical properties, as well as acceptability by consumers.
13. More knowledge is required about the impact of interactions among nutrients. For example, the presence of large amounts of calcium can inhibit the absorption of iron from a fortified food; the presence of vitamin C has the opposite effect and increases iron absorption.