

Question no. 2 (b):

Differentiate between food contamination and adulteration.

~~For~~

Food contamination

Food contamination describes the event at which a foreign material that can cause foodborne diseases enters the food material.

Food adulteration

Food adulteration is an act of intentionally debasing the quality of food either by substitution of inferior substances or by removal of some valuable ingredients for the purpose of sale. It may occur when demand is more than supply in the market.

Causes of food contamination

- a Biological contaminants includes bacteria, parasites and fungi. These can enter food through improper handling.
- b Chemical contaminants includes pesticides, heavy metals and residues from cleaning agents. These contaminants can come from environmental pollution, improper use of chemicals and contamination from packaging materials.
- c Physical contaminants involve foreign objects like grass shards, metal fragments, rats, plastic pieces that accidentally mixed into food during production or packaging.

Causes of food adulteration

- a It may be intentional substitution and adding cheaper, less nutritious or harmful substances to food.
- b The greed for increased profit margins.
- c Lack of trained manpower with outdated food processing techniques.
- d The common man cannot afford food items with their original constituents.

Intent of food contamination and food adulteration

Food contamination is generally unintentional and often results from poor hygiene, inadequate food safety practices, and environmental factors. On the other hand, food adulteration is intentional and deceitful, aimed at gaining social benefits and reducing production costs.

Examples of food contamination

- ~~Exam~~ A batch of lettuce contaminated with E. coli due to improper washing.
- Milk tainted with antibiotics due to improper use of veterinary drugs.

Examples of food adulteration

- Adding synthetic dyes to enhance the colour of spices or confectionery.
- Mixing water into milk to increase volume and profit margins.

Effects of food contamination

- a Foodborne illnesses or infections.
- b Health risks ranges from mild symptoms such as nausea, diarrhea to severe conditions i.e. kidney failure, hospitalization.
- c Food contamination can also create some common diseases like food poisoning.

Effects of food adulteration

- a Health risks if adulterants are harmful.
- b Loss of trust in food safety and integrity.
- c It can lead to health risks from harmful additives, reduce nutritional value and consumer deception.