

Module 2: Best practice on farm to factory handling of grains

Best practices to handle traditional grains
from farm to factory - Food safety



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Definition

A **food safety hazard** is any biological, chemical, or physical agent that may cause adverse health consequences for consumers.

Food safety hazards occur when food is exposed to hazardous agents which result in contamination of that food, making it to be unsafe for human consumption.

Hazards may be introduced into the food supply any time during harvesting, formulation and processing, packaging and labelling, transportation, storage, preparation, and serving.

Categories of food safety hazards

BIOLOGICAL HAZARDS

Biological hazards are living organisms, including microorganisms, that can put human health at risk. Biological hazards include bacteria, parasites, protozoa, viruses, moulds and the like. Agricultural products and food animals carry a wide range of bacteria.

Sources of biological contamination

- Soil
- Water
- Air
- Animals (Rodents)
- Food handlers (Cross contamination/Illnesses)

Categories of food safety hazards

CHEMICAL HAZARDS

Chemical contaminants in food may be naturally occurring or may be added during the production of food. Harmful chemicals at high levels have been associated with acute cases of foodborne illnesses and can be responsible for chronic illness at lower levels.

Sources of chemical contamination

- Pesticides (e.g. Insecticides, Fungicides, Herbicides, Bird and animal repellents)
- Mycotoxins (e.g. aflatoxin)
- Cleaning chemicals (use non-toxic food grade cleaning chemicals)
- Toxic metals (From the soil in which food is grown)

Categories of food safety hazards

PHYSICAL HAZARDS

Foreign material items are food safety hazards if:

- Items are sharp and could cause injury.
- Items are hard and could cause dental damage.
- Items blocking the airways and causing choking.

Sources of physical contamination

- Metal
- Glass
- Stone (proper post harvest handling)
- Wood (avoid wooden crates)
- Plastic
- Pests

Control measures

BIOLOGICAL HAZARDS


- Farmers using safe water for irrigation
- Farmers observing strict personal hygiene
- Safe storage of grains during aggregation

CHEMICAL HAZARDS

- Use of food grade pesticides
- Aflatoxin testing
- Soil testing to ensure soil is safe to grow food
- Use non-toxic food grade cleaning chemicals

PHYSICAL HAZARDS

- Safe post harvest handling
- Careful choice of raw material supplied
- Removal through use of sieving
- Wooden crate/pallets are avoided where possible

A wide-angle photograph of a field of tall, golden-yellow grass. Scattered throughout the field are numerous red poppies, some in full bloom and others as buds. The background shows a distant treeline under a clear blue sky with a few wispy clouds. The overall scene is bright and sunny.

In the next chapter we will introduce some tips to put in place an effective process to handle logistics