



Sampling

Sampling: involves the selection of a certain portion, number of container and product units from a particular lot of the same food .It must be as representative.

A process used to check that a food is safe and that it does not contain harmful contaminants, or that it contains only permitted additives at acceptable levels, or that it contains the right levels of key ingredients and its label declarations are correct.

Why sampling?

- 1-Less costs
- 2-Less field time

Sampling techniques/methods

There are several sampling methods in common use. These are described in brief below:

A-Probability Sampling	B-Non-Probability Sampling
<p>❖ Probability sampling is used when a representative sample is desired, and uses principles of statistical sampling and probability i.e. elimination of human bias. It is a random selection approach that tends to give each unit an equal chance of being selected.</p> <p>1-Simple random sampling</p> <p>2-Systematic sampling</p> <p>3-Stratified sampling</p> <p>4-Composite sampling</p>	<p>❖ non-probability sampling technique uses nonrandomized methods to draw the sample. Non-probability sampling method mostly involves judgment. Instead of randomization, participants are selected because they are easy to access. For example: in case of adulteration such as rodent contamination.</p> <p>1-Judgement sampling</p> <p>2-Convenience sampling</p> <p>3-Restricted sampling</p> <p>4-Quota sampling</p>

Requirements of Good Sampling Methods

- Inspection of the lot before sampling.
- Use of suitable sampling devices.
- Use of suitable containers to hold the sample.
- Preservation of the integrity of the sample and associated records.
- Use of adequate precautions in preserving, packing and delivery of the sample to the(lab.) in a timely manner.
- Providing of appropriate storage conditions for the sample both prior to and following analysis.

Sampling plan: as "a predetermined procedure for the selection, with drawal, preservation, transportation, and preparation of the portions to be removed from a lot as samples".

The criteria should be considered in formulating a sampling plan:

- type of food product
- the size of food articles to be sampled
- the degree of hazard to human health
- the potential for fraud
- acceptance and rejection criteria:
 - Adulteration.
 - Compositional standards.
 - Net contents.

Several factors are important in determining and identifying the food items that should be collected.

- What is the name of the food? (e.g. Tuna)
- Description of the food (e.g. Tuna, canned in water).
- Classification of the food (e.g. Medium fat fish).
- What forms/types/brand names of the food are consumed?
- Is the food in the natural state/processed food?
- How is the food prepared?
- Where is the food produced?
- When is the food produced?

Sample size: the amount of material required depends on:

- Objective of analyses.
- Analyses of duplicate/triplicate samples individually
- Number of nutrients/components to be measured.

It is important to ensure that the samples are clearly marked for identification transport and storage purposes.

- name of the food item
- name of collector
- date of sampling
- place of sampling
- point of sampling
- food code
- unit price of food, if applicable
- any other important detail to identify the food sample