

2.2 Ash Content Determination

To calculate the amount of ash left over after burning organic matter in order to calculate the mineral content of both organic and non-organic bananas.

2.2.1 Materials

- Muffle furnace
- Porcelain crucibles
- Desiccator
- Analytical balance

2.2.2 Procedure

Weighing: To guarantee precision, clean porcelain crucibles were weighed with an analytical scale.

Sample Preparation: Each crucible contained around 1 gram of banana powder.

Heating: To fully oxidise the organic material, the crucibles were heated overnight at 550°C in a muffle furnace.

Cooling: To ascertain the amount of ash present, the crucibles were reweighed following their cooling in a desiccator.

Calculation: The following formula was used to determine the ash content:

$$\text{Ash Content (\%)} = \text{Weight of Ash} / \text{Initial Sample Weight} \times 100$$

By removing the banana samples' organic material and leaving only the mineral residue, this process offers insight into the concentration of minerals (AOAC, 2019).