Data Collection

Prepare a blank sample using only the DPPH solution.

Calculate the percentage inhibition (I%) using the formula:

I% = ((A - B) / A) x 100

Where:

A = Absorbance of the sample

B = Absorbance of the blank.

Controls and Analysis

To compare antioxidant capacity at doses of 1.0, 2.5, 5.0, and 10.0 µM, use Trolox or Vitamin E as a control.

Utilising the data, compute the IC50 values to ascertain the concentration required for 50% inhibition.

2.6 Statistical Analysis

The purpose of this study was to ascertain the statistical significance of variations in antioxidant activity and mineral content (sodium, calcium, and magnesium) between bananas that were grown organically and those that were not. To compare the two groups and determine whether these differences were significant, statistical methods were applied.

Descriptive Statistics To summarise the mineral content and antioxidant activity in banana samples that were both organic and non-organic, descriptive statistics were first calculated. Key metrics included:

Mean Calculating the central tendency of antioxidant activity, calcium, magnesium, and sodium levels in both organic and non-organic bananas (Field, 2013).

Deviation Standard (SD) to calculate the sample groups' level of variability (Field, 2013).

Range To record the distribution of the data and identify any extreme values or outliers in the samples (Field, 2013).

An early comprehension of the variations in mineral content and antioxidant capability between the two groups was given by these descriptive statistics.