



Comparative Sensory Analysis of Two Cucumber Varieties Treated with Different Fertilizer Types in Dry Season Growing Condition

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Introduction

Cucumber belongs to cucurbitaceae family made of 118 genera and 825 species. It is a vegetable widely cultivated for its importance. Other crops in this family includes watermelon, musk melon, squash, and pumpkin. It can be grown in both tropical and subtropical climates. Cucumber cultivation is becoming more and more popular, most likely as a result of their great nutritional and economic value. The crop has strong anti-inflammatory, antioxidant, and anti-cancer effects, among other health advantages, when eaten fresh. Fertilizer is one of the most important ingredients in a successful cucumber crop production. Fertilizers are substances, either organic or inorganic, that, when added to the soil, supply one or more plant nutrients.

Materials and methods/Methodology.

The experiment was carried out between December and February 2025 at the Federal Polytechnic Ilaro, to ascertain the impact of fertilizer source, and variety on the organoleptic qualities of cucumbers. The experimental site was cleared and tilled mechanically. The plot was marked and pegged into plot size of 3m×3m and margin of 1m between the three replicates. 10t/ha poultry manure rate and 3g/plant of N. P. K 15:15 was applied based on treatment except for the control. The sensory evaluation was done using 25 respondents to access the organoleptic qualities of Cucumber. The data for the primary source were collected using sensory assessment sheet with a nine-point hedonic scale. Analysis of variance, One-Way (ANOVA) was used to determine statistically significant difference between the samples.

Results and discussion

The effect of fertilizer and variety was significant on almost all the organoleptic properties of cucumber. In terms of Appearance, African giant cucumber fruits (Sample B) treated with inorganic fertilizer had the highest value (8.24±1.45) while Darina fruits (Sample E) treated with inorganic fertilizer had the lowest value (6.08±2.27). In terms of Colour and Aroma, Darina fruits treated with organic fertilizer had the highest value (8.48±2.02, 8.64±1.49) respectively, also, Darina fruits treated with Inorganic fertilizer had the highest value in terms of taste. Unfertilized Darina fruits had the highest value in terms of Texture. For overall acceptability African giant cucumber fruits treated with organic fertilizer had the highest value (7.84±1.40) followed closely by unfertilized Darina fruits (7.52±1.66) fruits. Conversely, African giant cucumber fruits treated with inorganic fertilizer had the lowest value (5.68±1.79).

Conclusions

African giant treated with 10t/ha poultry manure had the highest value for overall acceptability. This study indicates that organic fertilizers may enhance consumer preference by balancing sensory attributes. Hence, these findings highlight the importance of fertilizer variety interactions in optimising sensory qualities and consumer acceptance of cucumbers.

Keywords: Aroma, Fertilizer, Organoleptic, Variety.