

Comparison of hybrid and open pollinated varieties of cabbage under Morogoro conditions

Objective: To assess the performance of hybrid and open pollinated varieties.

Methods and materials

Test location: The research was conducted at Sokoine University of Agriculture (SUA) in Morogoro.

Bimodal rain pattern: October to December and March to June. 750 - 1050 mm annually.

Mean minimum and maximum temperatures are of 17 °C and 28 °C, respectively.

Design: A randomized complete block design with three replications.

Sowing date: 27 May 2016

Planting date: 27 June 2016

First harvest: 27 August 2016

Planting spacing: 0.75m x 0.4 m

Varieties: Cilema F1, Indica F1, Glory of Enkhuizen (open pollinated), Victoria F1 and Michelle F1.

Seedlings were raised in trays over four weeks. Fertilizer application started two days after transplanting with NPK (19:19:19) and micronutrients (Mn, B, Zn, Cu and Mo) (0.2-0.5gm/l) from polyfeed starter which was applied by foliar application method. This was repeated after fifteen days and thereafter a combination of fertilizers was applied.



Results The head weight results are as shown below.

Variety	Weight per head (kg)
Cilema F1	1.8a
Indica F1	1.5a
Glory of Enkhuizen	1.5a
Victoria F1	1.6a
Michelle F1	1.6a
LSD	0.66
P-VALUE	0.815

Means separated by the same alphabet are not different ($P \leq 0.05$);

There was no significant difference in weight per head of the four varieties. However, the hybrids had the higher percentage of harvestable heads and hence higher yield per unit area. Victoria F1 had the highest harvestable heads (100%), followed by Indica F1 (93%). Glory of Enkhuizen) had the lowest number of heads that were harvested (43%). This was a result of more susceptibility to aphids, resulting in high failure rate to form a head.

Conclusion

The hybrids tested performed better than the open pollinated variety.

Note: The conclusion is based on only one test done at Morogoro (600 mASL) and might be different in other areas.