

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

Objective: Assess the performance of hybrid and open pollinated tomato varieties.

Methods and materials

Test Location: The research was conducted by a student at the Horticulture Unit at Sokoine University of Agriculture (SUA) Morogoro – Tanzania in 2016.

Bimodal rain pattern: Oct - Dec and March - June. 750 - 1050 mm annually.

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

Design: Randomized complete block design with 3 replications and 4 treatments.

Nursery: 21 days

First harvest: 98 days

Spacing: 0.75 m X 0.4 m

Seedlings of 3 hybrids and 1 open pollinated variety (Tanya) were raised in trays and transplanted after a month. After transplanting, fertilization using UREA (46% N), MAP (61% P₂O₅) and MOP (60% K₂O) was done. At the onset of flowering, topdressing with NPK (17:17:17) fertilizer was done at a rate of 5g/plant. Pests and diseases were controlled as required.

Drip irrigation was used.

Results

The yield and shelf life results are as shown in the table.



	Total Yield (t/ha)	Shelf life (Days)
Tanya	46	32a
Kipato F1	46	35b
Assila F1	44	34b
Eden F1	51	31a
p-value	0.6 ^{NS}	0.015
LSD	13.43	3.016

Means separated by the same alphabet are not significantly different at (P≤0.05); NS = Non significant

There was no significant difference ($P \leq 0.05$) in percentage marketable yield between the tested varieties. Kipato F1 and Assila F1 had a longer shelf life than the other two varieties.

Conclusion

Kipato F1 and Assila F1 had a better shelf life than the other two varieties tested.

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