

Effect of in-row spacing on yield of hybrid African eggplant

Objective

To determine the most appropriate in-row spacing for optimum yield of hybrid African eggplant.

Methods and materials:

Test location: Mama Clementina Foundation Production Farm (Weruweru Farm), in Weruweru, Hai District of Kilimanjaro, Tanzania.

Bimodal rain pattern: Oct – Dec and March – June, approx. 1 200 mm annually

Mean minimum temperature at night is 15°C to 17°C and mean maximum temperature ranges from 25°C to 33°C depending on the season.

Sowing date: 5 December 2016

Planting date: 20 December 2016

First harvest: 28 February 2017

Plant spacing: 75 cm between rows;
In-rows: 30 cm, 45 cm, 60 cm, 75 cm.

Design: A randomized complete block design with 4 replications.

Varieties: Seedlings of the hybrid variety Limpopo were raised in trays. After ploughing, beds were made spaced at 1.5 m. Transplanting was done in single rows. Drip irrigation was used. 83 kg P₂O₅/ha was applied as basal fertilizer using DAP. Nitrogen (221 kg/ha) and potassium (150 kg/ha) were applied as Urea with CAN and MOP respectively in split applications at weekly intervals up to 7 weeks after planting.

Results

Closer spacing gave higher yield compared to wider spacing.



Treatment	yield t/ha	Average fruit weight
30cm	45.57d	86.53a
45cm	38.98c	82.37a
60cm	30.90b	83.44a
75cm	24.58a	68.01a
l.s.d.	5.62	18.66
P-value	<.001	0.191

Means separated by the same letter are not significantly different (5% level); l.s.d. means least significant difference

Conclusions and recommendations

The results indicate that for highest yields of the hybrid variety Limpopo farmers should use 30 cm in row spacing.

Note: The conclusion is based on one test only done at Hai (997m ASL) and might be different in other areas.