



# Effect of improved tomato cultivars on productivity and profitability in Morogoro region, Tanzania

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## 1 SUMMARY

The objective of this study was to assess yield, revenue and profit from F1 hybrid tomato cultivars compared to farmers' preferred open pollinated local tomato cultivars grown in Tanzania. Seeds of local and F1 hybrid tomato varieties were sourced from local agro-dealers. The experiment was laid out in a randomized complete block design with four treatments (cv. Assila, Eden, Shanty and Oxyl Premium) and four controls consisting of local tomato cultivars (cv. Tengeru 97, Tanya, Cal-J and Riogrande). A treatment was replicated three times each with 12 plants. The seedlings were planted at a spacing of 60 cm x 60 cm in an open field at Sokoine University of Agriculture during the rainy and dry seasons. Data on total and marketable fruit yields were analyzed using Genstat statistical software version 15 and treatment means were separated based on Fisher's unprotected LSD test at  $p \leq 0.05$ . Seed and production costs were computed based on real cost while revenues and net profits were estimated based on fruit marketable yield and retail prices of TSh. 700 and 1000 per kilogram (One USD = TSh. 2000). Results indicated that cv. Assila significantly ( $p = 0.002$ ) produced higher total and marketable fruit yields than all local tomato cultivars during both the dry and rainy seasons. Moreover, cv. Eden significantly ( $p = 0.002$ ) produced higher total and marketable fruit yields than all local cultivars during the dry season only while cv. Shanty produced higher marketable yields than all local cultivars during the rainy season only. The production costs of F1 hybrid tomato cultivars were higher than those of local tomato cultivars during both seasons. Tomato cv. Assila produced higher revenue and net profit than all local cultivars during both seasons while cv. Shanty produced higher revenue and net profit than all local tomato cultivars during the rainy season only. It is therefore recommended that farmers in Morogoro region should grow cv. Assila during both the rainy and dry seasons, and cv. Shanty during the rainy season only.

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