

## Effect of different storage methods on the shelf-life of fresh sweetpotatoes in Gairo, Tanzania

Mpagalile J.J.1, Silayo V.C.K.2, Laswai H.S.1 and Ballegu W.R.1

<sup>1</sup>Department of Food Science and Technology, Sokoine University of Agriculture, P.O. Box 3006, Chuo Kikuu, Morogoro, Tanzania

<sup>2</sup>Department of Agricultural Engineering and Land Planning, Sokoine University of Agriculture, P.O. Box 3003, Chuo Kikuu, Morogoro, Tanzania

**Abstract.** One of the major constraints to the potential of sweetpotatoes is its perishability commencing soon after harvesting. This is worsened by the lack of suitable storage methods as well as the difficulties to store improved varieties such as SPNO. This study was therefore intended to evaluate the storability of improved sweetpotato varieties and assess the effectiveness of selected storage methods under Tanzanian conditions. Four storage methods were investigated with 50kg of fresh injury free SPNO sweetpotato tubers. The storage methods covered under this study included traditional pit, improved open pit, improved housed pit (*mjinge*) and raised woven structure (*kihenge*). Results obtained from this study showed that housed pit storage (*mjinge*) performed comparatively well whereas the traditional method was the poorest in all attributes. For example, sugar content of sweetpotato stored using *mjinge* method increased significantly ( $P < 0.05$ ) from

6.25% to 9.25%. Although *kihenge* method performed well with respect to crude protein that increased from 4.90% to 6.06%, its performance in other attributes was poor. In addition, sweetpotatoes stored by *mjinge* method had good quality attributes of sweetness, starchy mouth feel, smell, colour and general acceptability, scoring between 3.37 and 4.19 in the hedonic scale (0- 5). Sweetpotato stored using this method could be processed for blending with cereals to make composite flours for porridge and also for making fried snacks. Efforts to tap the vast potential of sweetpotatoes are now underway through joint dissemination with the stakeholders.