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Postharvest Handling, Hygiene Knowledge and Practices of Guava Fruit Farmers: A Comparative Study of two Counties of Kenya

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Abstract

In many parts of Kenya, guava (*Psidium guajava*) grows unattended to in the farms and forests. The fruit is a climacteric fruit characterised by high perishability and huge postharvest losses attributed to neglected postharvest management. Little information therefore exists on postharvest handling properties. This study aimed at establishing the postharvest handling, hygiene knowledge and practices of guava farmers. A cross-sectional study of farmers (n=417) was done in arid and semi-arid lands of Kitui and Taita Taveta counties, Kenya. Data on postharvest handling, knowledge on hygiene and practices was collected through semi-structured questionnaires using Open Data Kit (ODK). The results showed that the main indicative maturity indices of guavas to farmers in Kitui and Taita Taveta were skin colour (98.5%, 92.1%) and full ripe level (38.7%, 18.7%) respectively. Packaging was not a common practice in Kitui and Taita Taveta and did not differ significantly ($\chi^2=8.717$, $p = 0.003$). Storage of the fruit was low (Kitui=41.6%, Taita=55.2%) with no significant difference among the two ($\chi^2=7.699$, $p = 0.006$). Shelf life of guavas differed between Kitui and Taita Taveta with 3.4 ± 1.8 and 4.2 ± 1.9 days respectively ($t=44.264$, $p < 0.001$). Pest and diseases were more rampant in Kitui (95.33%) than Taita Taveta (77.8%), however, both did not apply pesticides for control. A cluster analysis indicated that Kitui farmers (71.9%) had more knowledge on hygiene and postharvest than those in Taita Taveta (49.7%). Additionally, female farmers (65.4%) were more knowledgeable than males (55.4%). Poor postharvest handling knowledge of guava farmers can be attributed to the huge postharvest losses reported in Kitui and Taita Taveta.

Keywords: Guavas, hygiene, post-harvest handling, post-harvest losses, preservation