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Quality of Mango, Passion Fruit and Pineapple in Tanzania

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Abstract

Tanzania has a wide range of agro-climates suitable for the production of a large number of agricultural products. In many of these agro-climatic zones the available production potential is not fully utilized. For example, Tanzania has the potential to produce 2,000,000 metric tons of fruit worth at least US \$ 900,000. About 40 % to 60 % of these fruits are wasted, because processing and preservation facilities are not available. Recently, the importance of organic farming has increased, so that ecologically produced fruits are available on markets. The present study intended to evaluate parameters, which play a role in quality evaluation of organically grown mango (*Mangifera indica* L.) cv. ‘Dodo’, yellow passion fruit (*Passiflora edulis* f. *flavicarpa*) and pineapple (*Ananas comosus* L.) cv. ‘Smooth Cayenne’ to meet local and international market standards. Special emphasis is given on compounds that contribute to human health, such as vitamins (mainly ascorbic acid) and mineral nutrients. Further quality parameters to assess nutritional properties include fruit weight, color, juice percentage, soluble solids, and titratable acidity. Passion fruit was characterized by the highest ascorbic acid content (13.7 mg per 100 g), followed by mango (5.2 mg per 100 g), and pineapple (4.2 mg per 100 g). However, pineapples showed higher Brix values of 15.4 % than mangoes (14.8 %) and passion fruits (14.6 %). The percentage of juice was higher in mango (57.9 %) than in pineapple (48.8 %) and passion fruit (45.4 %), while passion fruit had a higher percentage of titratable acidity (8.5 %) compared to mango (2.4 %) and pineapple (1.4 %). Pineapples and mangoes are consumed as fresh fruits and are also processed to juice, while the yellow passion fruit is mainly processed to juices and nectars.

Keywords: Ascorbic Acid, Brix value, Mangoes, Passion fruits, Pineapple, Titratable Acids