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Potential Contribution of Mangoes to Reduction of Vitamin A Deficiency in Kenya

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Abstract

The β -carotene content of fresh and dried mangoes commonly consumed in Kenya was evaluated and converted to retinol equivalent (RE). Mango fruits of varieties Ngowe, Apple, and Tommy Atkins were harvested at mature green, partially ripe, and ripe stages and their β -carotene content analyzed. The stability of β -carotene in sun dried mangoes was also studied over 6 months under usual marketing conditions used in Kenya. The effect of using simple pretreatment methods prior to drying of mango slices on retention of β -carotene was as well evaluated. In amounts acceptable to children and women, fresh and dried mangoes can supply 50% or more of the daily required retinol equivalent for children and women. Stage of ripeness, variety, postharvest holding temperature, method of drying, and storage time of dried mango slices affected β -carotene content and consequently vitamin A value of the fruits. Apple variety grown in Machakos had the highest β -carotene. It exceeded the daily RE requirements by 11.8% and 21.5% for women and children respectively. Fresh or dried mangoes are a significant provitamin A source and should be included in food-based approaches aiming to reduce vitamin A deficiency.

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