

Effect of pre-treatments on solar drying efficiency and pro-vitamin A content of mango slices

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Mango is one important source of pro-vitamin A, particularly for children and smallholder farmers in the rural areas of Mozambique. Solar drying is used as a technology to contribute to a more sustainable food production in Mozambique, providing added value and a possible additional income to the farmers. This work studies the effect of two different solar drying procedures on the mango pro-vitamin A content.

Two different thicknesses of mango slices were treated in two different ways (blanched and non-blanched) to enhance the retention of β -carotenes, and dried. The solar drying setups were the direct fan (DF) and indirect fan (IF), and the content of β -carotene is determined and compared based on high-performance liquid chromatography (HPLC). The retention of all-trans- β -carotene and the ratio between trans and 13-cis- β -carotene are analyzed. Blanched samples dried in the IF solar setup are expected to have a higher content of all-trans- β -carotene. The evaluation of the efficiency of the solar drying setups, as well as the retention of pro-vitamin A in the samples is reported and discussed.