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Effect of blanching on curcumin content in dried product during processing of turmeric

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Turmeric (*Curcuma longa* L.) is an important spice used for its yellow colour and special flavour. Rhizomes of turmeric are often found in violet yellow colour. Rhizome contains 2 to 7 % curcumin which is yellow in colour. Turmeric is used in traditional medicine and in the manufacture of cosmetics. Processing of turmeric involves two main steps; blanching and drying (Blasco, *et al.*, 2006). Quality of processed turmeric depends directly on the blanching time. The stage at which boiling is stopped largely influences the colour and aroma of the final product. Over-cooking spoils the colour of the final product while under-cooking renders the dried product brittle. Processing has to be done 2 or 3 days after harvesting. Curcumin content depends directly on the cooking time of rhizomes. Thus, this study was carried out to find out the optimum boiling time for turmeric tubers and fingers separately. Tubers and fingers were blanched separately in boiling water for different time intervals; 3 min, 5 min, 10 min, 15 min, 30 min and 45 min and were slow dried under sunlight for a week and then dried in direct sun until they become completely dried. Completely dried turmeric holds 6 % moisture content. Dried fingers and tubers were polished to remove scales and rootlets from the rhizomes using turmeric polisher designed and fabricated by Department of Export Agriculture. Quantitative determination of moisture content and curcumin content were performed using Dean and Stark method and ASTA method 18.0 respectively. The percent curcumin content was calculated on dry basis. Complete randomized design was used in experiments with six replicates. Data were analysed using SAS statistical software. The highest mean percentage on dry basis in tubers (6.41 %) and fingers (5.01 %) was recorded in 45 min blanched sample. However, there was no significant difference in mean percent curcumin content in 45 min blanched sample and 30 min blanched sample in both tuber and fingers. Therefore, it can be concluded that during processing of turmeric, rhizomes should be blanched in boiling water for not less than 30 min and not more than 45 min. According to the results turmeric tubers contain higher curcumin content compared to that of fingers.