

A STUDY ON  
PRESERVATION OF TAMARIND AS A  
CONVENIENT SEASONING

BY

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## ABSTRACT

Tamarind (*Tamarindus indica* L.) is an economically important tree. The fruit pulp is the most important product, which is a common article of trade. Preservation techniques are required to reduce the postharvest loss of tamarind due to fungus and weevil attacks. Hot air dehydration of tamarind pulp is a simple technique that could be applied to preserve the pulp. Therefore, this study was conducted to develop processing methods for fresh tamarind to produce tamarind paste and tamarind powder by the above mentioned method.

Fresh, ripened tamarind fruits were cleaned and the pulps were extracted using hot water. A 1:1 fruit: water ratio produced the highest amount of pulp. The proportions of weights of pulp and extraneous matter (seeds, fibre and shells) during processing were found to be 40% and 60% respectively. A portion of the pulp was subjected to hot air drying at 120 °C for 9 hours to produce tamarind paste, while the other portion of the pulp was well mixed with 28% level of rice flour, followed by 6 hours of hot air drying at 120 °C in an air dryer. Based on the product quality during the preliminary experiments, the optimum level of starch was added. The general characteristics of the developed tamarind powder were, that it had flavouring characteristics of good tamarind pulp when dissolved in water, free from burnt or any other undesirable flavours, (it had a good keeping quality) and it was free from bacterial and fungal growth. The resulted products were analyzed for nutritional composition.

A sensory evaluation test using paired comparison test and 9-point hedonic scale ranking methods were conducted to evaluate the taste and preference of the products. Data from the sensory evaluation were analyzed using the T-test. The

results revealed that there was no significant difference between the processed products for taste and preference. The tamarind powder was selected as the best, as it gave an acceptable taste, preference, low cost of production and it was free from the growth of microorganisms.

The present study was also focused on the determination of the suitability of the processed as well as fresh tamarind in terms of microbial aspects, which would be beneficial to the processor and consumer. The samples were examined for total bacterial and fungal count, and presumptive coliforms. The highest fungal count of  $2.8 \times 10^4$  was observed in raw tamarind. This indicates that proper cleaning and minimal contamination during processing has to be exercised to produce high quality products. The bacterial growth was zero in all the samples after 48 hours of incubation. Coliforms were not positive in any sample.

It is recommended that further studies can be carried on the basis of processing of tamarind in food applications.

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