

## DEVELOPMENT OF OSMO-AIR DRIED PAPAYA (VAR. *Red lady*) USING BEST SUGAR CONCENTRATION AND SHAPE

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The common method used for osmotic dehydration is the gradual increase of the concentration of osmotic agent which is a time consuming method. Thus this study was conducted to find the effect of osmosis in high concentrated osmotic solution within 24 hrs time. The fruit slices of 1 cm thickness and 4 cm length were obtained from partially ripened papaya var. *Red lady*. The slices were immersed in sucrose and liquid glucose solutions at three different concentrations as 50%, 60% and 70% with 1% citric acid for 24 hrs followed by dehydration at 65°C for 8 hrs. Treated slices were analyzed for biochemical parameters (pH, Total Soluble Solids {TSS}, titratable acidity and moisture content) and sensory characteristics. At the end of the osmosis, the titratable acidity has reduced in all the treatments and the moisture contents were 10-13%. The sensory evaluation results revealed that there was no significant difference ( $\alpha > 0.05$ ) between treatments in both sugar solutions.

The experiment was further conducted to determine the best shape of the papaya pieces for osmotic dehydration and 50% sucrose solutions with papaya slices of 1cm thickness and 0.5 cm chunks were used for this. The same procedure was followed for the osmotic dehydration. The sensory evaluation results revealed that there was no significant difference ( $\alpha > 0.05$ ) between the two treatments. Hence, the most economically sound treatments were selected as the best treatments, which are 50% sucrose and 50% liquid glucose solutions. The selected treatments were stored under room temperature (29°C±2) and analyzed biochemically and microbiologically at one month intervals. The total plate count results were at an acceptable level and there was no significant difference ( $\alpha > 0.05$ ) in moisture content, pH, TSS and titratable acidity after one month storage period. Thus it can be concluded that the developed product could be successfully stored at room temperature for one month period.

**Key words:** Papaya, Sensory evaluation, Variety-Red lady.