# DEVELOPMENT AND QUALITY ASSESSMENT OF DEHYDRATED SOURSOP (*Annona muricata*) POWDER

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Soursop (*Annona muricata*) is a highly nutritious fruit grown in Sri Lanka. Soursop can be preserved in powder form and utilized in value-added products. The major obstacle of soursop dehydrated powder produced from the oven drying method is its discolouration due to enzymatic browning. Thus, this study aimed to test whether using chemical inhibitors and blanching would avoid discolouration of soursop powder. Ten different treatments ($T_1$=1% ascorbic acid, $T_2$=1% citric acid, $T_3$=0.5% ascorbic acid with 0.5% citric acid, $T_4$=0.5% sodium metabisulfite, and $T_5$=control) were evaluated with blanching and without blanching. In the preliminary test, based on the rate of discolouration, four treatments were discarded. Colour, pH, and titratable acidity (TA) of remaining six treatments were tested at storage (7 weeks at the ambient condition) in weekly intervals. Three treatments ($T_4$ without blanching, $T_4$ with blanching, and $T_5$ without blanching) were selected based on the browning index (BI). Soursop powder and its rehydrated juice prepared from the selected three treatments were subjected to a sensory evaluation using 25 semi-trained panellists. $T_4$ without blanching had the highest sensory acceptability. Microbial count and proximate composition were evaluated for $T_4$ without blanching. Moisture, crude protein, crude fat, crude fibre, ash and carbohydrate of the soursop dehydrated powder were 11.90 ± 0.13%, 13.98 ± 0.17%, 6.08 ± 0.15%, 13.03 ± 0.12%, 5.91 ± 0.24%, and 49.10 ± 0.32%, respectively. Initial BI, pH, and TA were recorded as 12.79 ± 0.27, 5.40 ± 0.00, and 1.97 ± 0.05%, respectively, and total plate and yeast and mould counts were 250 and 50 $CFUmL^{-1}$ respectively. BI, pH, and microbial counts were increased while TA decreased during the storage period. However, they were within acceptable limits. In conclusion, 0.5% sodium metabisulfite without blanching treatment is ideal for controlling the discolouration of soursop dehydrated powder.

***Keywords***: Blanching, Dehydration, Discolouration, Enzymatic browning, Soursop