

DEVELOPMENT OF NORMAL, LOW SUGAR AND NON-SUGAR JAM USING CARAMBOLA FRUIT (*Averrhoa carambola*)

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The carambola or the star fruit (*Averrhoa carambola*), is an underutilized fruit having nutritional and medicinal values in Sri Lanka. Carambola has high post harvest losses due to high water content (90%) and smooth outer peel. There are less processed products of carambola fruit in the Sri Lankan market. Therefore development of new processed products would greatly help in achieving the maximum utilization of carambola fruit. Productions of the low sugar and non sugar products have been becoming popular among Sri Lankans due to health concerns of people. This research has been conducted to develop normal, low sugar and non sugar jam using star fruit. The best recipe for the jam was developed using trial and error method based on sensory evaluation conducted by using 30 untrained panelists. The selected recipe containing 50% of pulp was used to develop normal jam with 50% of sugar and low sugar jam with 10% of sugar and non sugar jam was developed using artificial sweetener "Aspartame". TSS, pH and acidity also measured. Bottles were sterilized using batch type bottle sterilization and filled into glass bottles. The samples were stored under ambient temperature. TSS, pH acidity, sensory evaluation and total plate count were analyzed in one month interval for 3 months. TSS, pH and acidity were not significantly changed with storage period ($\alpha=0.05$). Taste, color and overall acceptability were significantly different. Low sugar jam was significantly different for taste. Color is significantly different. The best one was normal jam then low sugar and finally non-sugar. The best one was normal jam in overall acceptability where low sugar and non-sugar jams were same. Sensory evaluations data was analyzed using Friedman test with non parametric analysis. ANOVA was used to analyze chemical parameters of the product. Based on these results, it can be concluded that the production of normal, low sugar and non-sugar jam is an effective way to utilize underutilized star fruits in Sri Lanka.

Key words: Carambola, Jam, Normal jam, Low sugar jam, Non-sugar jam, Sensory evaluation