

FORMULATION AND SHELF LIFE EVALUATION OF REFRIGERATED AVOCADO (*PERSEA AMERICANA*) FRUIT SPREAD

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The avocado (*Persea americana*) is one of the highly nutritious fruits with exquisite taste and aroma. However, the fruit is very difficult to process due to enzymatic browning, oxidative rancidity and microbial spoilage. Hence the study was designed with the aim of developing a refrigerated avocado fruit spread with prolonged shelf life, using varying amounts of sugar, salt, gum and skimmed milk powder (SMP). Formulated product was then subjected to three preservative treatments (T₁-100 ppm Sodium metabisulphite (SMS), T₂-2000 ppm Ascorbic Acid (AA), T₃-100 ppm SMS + 2000 ppm AA, T₄-Control) and kept under refrigerated storage (4 °C), in order to find out the best preservative treatment to ensure the storage stability of the product. To evaluate the shelf life of the product, samples were drawn at weekly intervals and analyzed for chemical (free fatty acids, peroxide value), microbial (total plate counts and yeast and mould counts) and sensory parameters. The analysis of sensory data revealed that the best formulation for the fruit spread comprised of 20% sugar, 0.5% salt, 0.5% xanthan gum and 5% SMP. And the treatment with 100ppm SMS + 2000ppm AA was able to preserve the product until the sixth week (42 days) at refrigerated storage. According to the results of sensory, microbial and chemical parameters evaluated; Total Plate Count (0.47×10^3 cfu/g), Yeast and Mould Count (210 cfu/g), Peroxide Value (9 mEq/kg), Free Fatty Acids (0.7 %) and the Sensory Attributes (colour, flavour, aroma, consistency and overall acceptability) still remained at acceptable levels at the end of the storage period. Proximate analysis of the fruit spread resulted in values of 64.52 g moisture, 10.08 g fat, 16.65 g carbohydrate, 5.12 g fiber, 2.23 g protein and 1.37 g ash. Consequently, the study highlighted the feasibility of developing and introducing processed avocado food products into the market with promising consumer demands, thereby contributing value addition to the avocado fruit.

Keywords: Avocado, Fruit Cream, Preservatives, Shelf Life, Sensory Evaluation