

**DEVELOPMENT OF AVOCADO (*Persea americana*)
INCORPORATED SET YOGHURT**

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by

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Abstract

Inclusion of avocado (*Persea americana*) in to processed food products has limited due to the enzymatic browning of avocado. Polyphenol oxidase enzyme in avocado flesh use to react with oxygen and results undesirable brown color pigmentation called enzymatic browning. This research on controlling enzymatic browning of avocado pulp and incorporating treated avocado pulp for enzymatic browning it in set yoghurt. Seven treatments were used to control enzymatic browning of avocado pulp as, 1% (w/w) ascorbic acid (treatment 1), 1% (w/w) citric acid (treatment 2), 1% (w/w) citric acid and 1% (w/w) ascorbic acid (treatment 3), 0.1% (w/w) sodium benzoate (treatment 4), 0.1% (w/w) potassium sorbate (treatment 5), heat treatment at 40 °C for 30 minutes (treatment 6) and preserving as a jam by adding 1:1 ratio of Sugar: avocado pulp ratio (treatment 7). After selecting the best enzymatic browning controlling method, avocado incorporated set yoghurt was prepared using avocado pulp, gelatin and sugar in different levels. Best avocado pulp, sugar and gelatin incorporation levels were selected by a sensory evaluation using 35 untrained panelists. Shelf life determination was done at 1st, 3rd, 5th, 7th, 9th and 11th day of storage at 5 °C. Total plate count, yeast and mold, coliform bacteria, Titratable acid percentage, pH, peroxide value were determined as shelf life parameters and sample were visually observed for any color change due to enzymatic browning. Preserving avocado pulp with 50% sugar was selected as the best method to control enzymatic browning and 20% of avocado jam incorporation level in to set yoghurt was selected as the best incorporation level whereas 18%, 20%, 22%, 24% and 26% incorporation levels were rejected by panelists due to undesirable sensory properties. Further 11% of sugar incorporation level and 0.8% of gelatin incorporation level were selected by the sensory panelists as the best inclusion levels. It was found 3 log 10 CFU/ml of yeast & mold count and no coliform presents, 0.94% of Titratable acidity and 3.91 of pH during 11th day of storage. Peroxide value had drastically increased from 48 mEq to 80 mEq during 7th day to 11th day of storage and color of the product had started turning in to brown from 7th day of storage. Finally preserving avocado pulp with 50% sugar was selected as the best enzymatic controlling method and 10% of avocado, 11% of sugar and 0.8% of gelatin given the best composition of avocado incorporated set yoghurt. Shelf life of the product has limited to 5-6 days as enzymatic browning got appeared again from 7th day of storage.