

DEVELOPMENT OF TEXTURE IMPROVED, VALUE ADDED FRUIT BAR FROM MANGO (*MANGIFERA INDICA* L.), PINEAPPLE (*ANANAS COMOSUS* L.) AND ASH PUMPKIN (*BENINCASA HISPIDA*)

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Fruit bars are sweet and sour confectionary products, produced by dehydrating fruit pulps along with other additives such as sugar, pectin, liquid glucose, citric acid and preservatives. This research was conducted to develop a texture improved, value added fruit bar with locally available two fruits, mango and pineapple. Ash pumpkin and pumpkin were used as the texture improvement agents. Initially, sugar was added to the fruit bar and later replaced by *kithul* treacle as a value addition strategy for health benefits.

A series of experiments were conducted to determine the ingredients, their optimum levels and the initial thickness of the fruit bar. Fruit pulp was extracted using a blender and then blanched. It was then heated with 0.3% pectin, 0.3% citric acid, 1.07% liquid glucose and 20% sugar until total soluble solid (Brix) reached at 30 %. The heated pulp was dehydrated at 60-65 °C for 12-15 h in a tray dryer. The dried fruit bar was cut into pieces and coated with corn flour. Ash pumpkin at 0, 20, 30 and 50% and pumpkin at 0, 20, 30 and 40% (w/w) were used as the treatments. The rest of the ingredients were added in equal amounts to both mango and pineapple pulp. To determine the optimum initial thickness, four thickness levels (7, 10, 15 and 20 mm) were considered. After the dehydration, tenderness was measured in each treatment using Instron tender meter. The best treatment was selected by a ranking test. To determine the best *kithul* treacle level, it was added at 4, 8, 12 and 16% (W/W). Total plate count, yeast & mold and *Escherichia coli* counts were determined just after the production and after 30 days using petrifilm plate method.

The best preferred treatment was selected by 7 point Hedonic Scale. As packing materials Nylon/EVOH 1.2/ LLDPE 80, Nylon/LLDPE laminated and PET 10µm/Al 7µm/LLDPE 35µm materials were tested as both normal packing and with N₂ flushing. According to results 20% ash pumpkin, 15 mm initial thickness and 12% treacle level were found as the best formulation. Pumpkin was found to be ineffective in improving texture. PET 10µm/Al 7µm/LLDPE 35µm packing material with N₂ flushing was the best combination for packing the finished product. The product was microbiologically safe after one month storage under ambient conditions.