Application of Polysaccharide based Composite Film Wax Coating for Shelf Life Extension of Guava (var. Bangkok Giant)

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The objective of this project is to find out the applicability of different concentrations of lipid based edible coating (wax) for shelf life extension of guava. The application of wax coating helps to extend the shelf life of picked guava by minimizing the weight loss due to natural migration process of moisture and gases. The present investigation relates to find out the applicability of different concentrations of edible coating (wax) for shelf life extension of guava, which include palm oil (3%), glycerol (30%), Sorbitan monooleate (tween 80) (2%) and guar gum (2%). The medium size fruits were harvested at correct maturity (green to yellow) and only disease and damage fruits were selected. The treatment solution was prepared by mixing wax formula with distilled water in 1:1 (T_1) and 1:2 (T_2) ratios and (T_3) kept as control without any treatment. The fruits were analyzed for physiological weight loss, fruit firmness, titratable acidity, pectin content, pH, total soluble solid content and rate of respiration for 09 days storage. The consumer acceptability was evaluated by 30-panellist using 5 point hedonic scale. Among the treatments tested, wax solution mixed with water in 1:1 ratio (T_1) showed significantly higher performances ($p < 0.05$) compared to the other treatments tested. The selected treatment appeared to extend the shelf life of guava up to 09 days under ambient condition (29-32 ^{0}C and 65%- 70% RH) with appreciable retention of all quality parameters tested.