

Effect of Boomi Tree (*Litsea glutinosa*) Wax on Internal Quality and Sensory Attributes of Chicken Eggs Stored Under Room Temperature

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Shell eggs having a short shelf life at room temperature. Surface coatings can be used to extend the shelf life and minimize economic losses. Edible mineral oil is used as a coating material but several drawbacks are associated. Waxes are most commonly used hydrophobic film forming materials. Boomi tree (*Litsea glutinosa*) is found throughout Sri Lanka and its bark mucilage consists of hetero-polysaccharide used in ayurvedic medicine. However, information on boomi tree wax coating on egg quality attributes does not exist. Hence, this study was done to check the effect of boomi tree wax as an external coating material on shelf life, internal quality and sensory attributes of chicken eggs stored under room temperature. Total of 270 freshly laid brown, medium sized, clean eggs were purchased from a layer farm in Demodara. Eggs were individually weighed and coated with boomi wax and mineral oil separately while non-coated eggs were used as the negative control and kept in room temperature. Weight loss, air sac volume, Haugh unit, yolk color, albumen and yolk pH, yolk index, FTIR analysis, *Salmonella* test and sensory attributes were weekly determined. Albumen and yolk pH were increased. But the increment in the mineral oil coated was significantly lower than the other two ($p < 0.05$). Haugh unit (75.0 to 53.6) and yolk index (0.44 to 0.22) decreased during storage in wax coated and non-coated eggs ($p < 0.05$). Grades of non-coated and boomi wax coated, eggs changed from AA to B within 04 weeks whereas those of mineral oil coated eggs remained in AA. Weight loss of wax coated eggs were significantly higher compared to mineral oil coated eggs ($p < 0.05$). *Salmonella* sp. were detected in several weeks during storage conditions showing permeability of the microorganisms. FTIR analysis revealed that no chemical changes occurred due to the wax. Increase of air sac was higher in noncoated eggs ($5.39 \pm 0.3\text{mm}$) after 42 days compared to wax ($4.59 \pm 0.2\text{mm}$) and mineral oil ($1.19 \pm 0.3\text{mm}$) coated eggs. In 3 week of storage sensory data was showed significant in sensory parameters. In conclusion, this study showed that Boomi wax is not a suitable coating material for chicken eggs.

Keywords: Boomi tree wax; Chicken egg; Haugh unit; Yolk index; Mineral oil