

**THE EFFECT OF HIK WAX (*Lannea coromandelica*) AND  
MANGO WAX (*Magnifera indica*) ON INTERNAL AND  
SENSORY ATTRIBUTES OF CHICKEN EGGS STORED  
UNDER ROOM TEMPERATURE**

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## ABSTRACT

To increase the shelf life and to preserve the nutrition content under room temperature mineral oil used as an external coating material for eggs. Hik tree (*Lannea coromandelica*) and mango trees (*Magnifera indica*) are tropical trees grown in dry zone of the country and its wax has film forming properties. However, information on hik tree wax and mango wax coating on egg quality does not exist and therefore this study was done to check the effect of hik tree wax and mango wax as an external coating material and to evaluate the internal quality, shelf life and sensory attributes of eggs during storage. Total of 408 white, medium sized, clean eggs were purchased from a commercial layer farm. Eggs were individually weighed and arranged under completely randomized design to 04 different coating treatments as hik wax (HW), mango wax (MW), mineral oil (MO), non-coated (NC) and stored under room temperature ( $27\pm 2$  °C) for 6 weeks. Each parameter was measured with 03 replicates. Weight losses, internal quality parameters such as, Haugh unit (HU), albumen and yolk pH values, air sack volume and microbial analysis for *Salmonella* sp. of eggs were measured weekly. Sensory attributes of eggs were measured using 30 untrained panelists. Fourier transform infrared spectroscopy (FTIR) analysis was done to analyze the structural changes of egg albumen. Weight losses were minimum in MO coated eggs than others ( $p < 0.05$ ). Haugh unit decreased significantly ( $p < 0.05$ ) in NC but in others it was more than 50%. Albumen and yolk pH increased during the storage in all treatments ( $p > 0.05$ ) but air sack increase was low ( $p > 0.05$ ). However, coated eggs reduced the grade from 88 to 55 within 04 weeks. All coated eggs were negative for *Salmonella* test during the period tested. Color of the egg yolk did not change due to coating material. FTIR analysis and sensory attributes confirmed that no chemical changes in wax coated eggs during the storage. As conclusion the present study confirmed that hik tree wax is another good replacer for the MO in commercial scale.

**Keywords** - Hik wax, Mango wax, Mineral oil, Internal quality, Shelf- life, Sensory properties