

## **Development of polysaccharide-lipid based composite wax formulation to enhance the storage quality of orange**

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The objective of this project is to find out the effect of different concentrations of polysaccharide-lipid based edible coating (wax) for shelf life extension of citrus. Quality of orange and its storage performance was evaluated. Orange after harvesting were washed with 200ppm chlorine solution and kept for air drying in shade at room temperature (25-30<sup>0</sup>C). The fruits were coated with different coating solutions ; Bee wax 0.5%,cassava starch 2%, corn oil 1% and sodium bicarbonate 1% (T<sub>1</sub>); Bee wax 0.5%,cassava starch 2%, coconut oil 1% and sodium bicarbonate 1% (T<sub>2</sub>) ; Bee wax 0.5%,cassava starch 2% and sodium bicarbonate 1% (T<sub>3</sub>); Control(without coating) stored under ambient condition (29-32<sup>0</sup>C and 65%- 70%RH).The physicochemical and physiological characters (physiological weight loss, Total soluble solids contents (TSS), fruit juice content, ascorbic acid content and the respiration rate) of fruits were evaluated for 10 days storage and the coating formulations consist Bee wax 0.5%,cassava starch 2%, corn oil 1% and sodium bicarbonate 1% (T<sub>1</sub>) showed a remarkable effects significantly (P<0.05) to protect the physiological and biochemical characteristics of citrus. It extends storage life up to 10 days with appreciable retention of most of quality characteristics tested.