Application of Crude Extract of Gelatin from Tilapia *(Oreochromis mossambicus)* Skin as an Edible Coat for Tomatoes *(Solanum lycopersicum* var. *padma)*

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Edible coating is an effective method to maintain fruit quality and minimize the post-harvest losses especially in soft skinned fruits. Tomatoes at harvested maturity are more prone to physical impacts during transportation increasing the post-harvest losses. Over the years gelatin has been commonly used as an edible coating due to its barrier properties. Tilapia fish skin as a by-product from inland fisheries is a good source of gelatin. Thus, the present study was focused on application of gelatin based edible coating extracted from tilapia skin for tomatoes. Locally available tilapia skins were used to extract crude gelatin and treated with 5% (v/v) glycerol and applied for tomatoes by brushing at turning stage under room temperature. Non coated tomatoes were used as the control. Both coated and non-coated tomatoes were stored at room temperature for 25 clays of storage in opened polyvinyl boxes. During storage, samples were evaluated for pH, weight loss, color *(L*, a*, b*)* , titratable acidity, total soluble solids, hardness and sensory attributes at 3-day intervals. Weight loss, color, total soluble solids, titratable acidity and hardness of coated tomatoes showed significant differences ($p < 0.05$) than those of non-coated tomatoes. However, pH and titratable acidity were not significant ($p > 0.05$) between treatments. Sensory analysis was done by 30 untrained panelists and results revealed that the use of edible coating positively influenced on overall acceptability of coated tomatoes until 24th day whereas non coated tomatoes had an unacceptable quality at 18th day. In conclusion, application of crude extract of gelatin on tomatoes showed delayed ripening with acceptable quality parameters for 24 days at room temperature.

Keywords: Gelatin, Edible coating, Tomato, Tilapia skin